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GROUP 42

BODY

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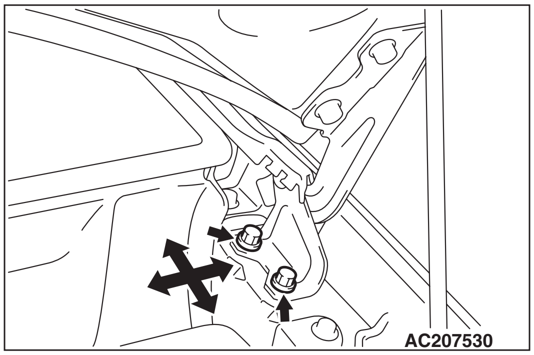
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HOOD

ON-VEHICLE SERVICE

ADJUSTMENT OF CLEARANCE AROUND HOOD

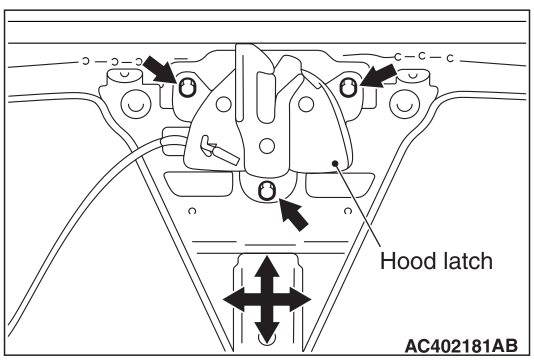
M1421007200196



ADJUSTMENT OF ALIGNMENT OF HOOD STEPPED PORTION AND HOOD STRIKER

M1421007300427

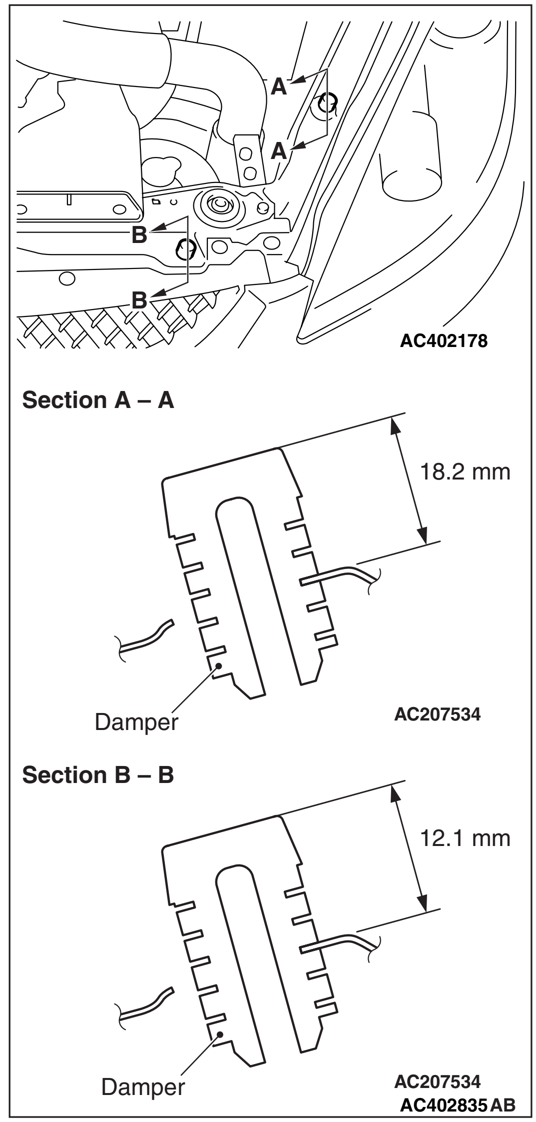
1. Remove the front bumper assembly (Refer to GROUP 51, Front Bumper Assembly and Radiator Grille P.51-2 <COLT>, P.51-2 <RALLIART Version-R>).
2. Remove the hood latch cover.



3. Loosen the hood latch mounting bolts but do not remove them. Then move the hood latch up/down and left/right to align the hood level and adjust the hood striker engagement.
4. After the adjustment, tighten the hood latch mounting bolts to 9.0±2.0 N·m.
5. Install the hood latch cover.
6. Install the front bumper assembly (Refer to GROUP 51, Front Bumper Assembly and Radiator Grille P.51-2 <COLT>, P.51-2 <RALLIART Version-R>).

ADJUSTMENT OF HOOD HEIGHT

M1421007400297



Turn the damper to the shown dimension to adjust the hood height. If the hood height is still not even, turn the damper again until the height is even. The damper height is altered by roughly 3 mm when the damper is rotated once.

NOTE: If a rattling noise is heard due to the vibration of the hood when the vehicle is being driven, adjust the damper height until the damper is seated on the hood.

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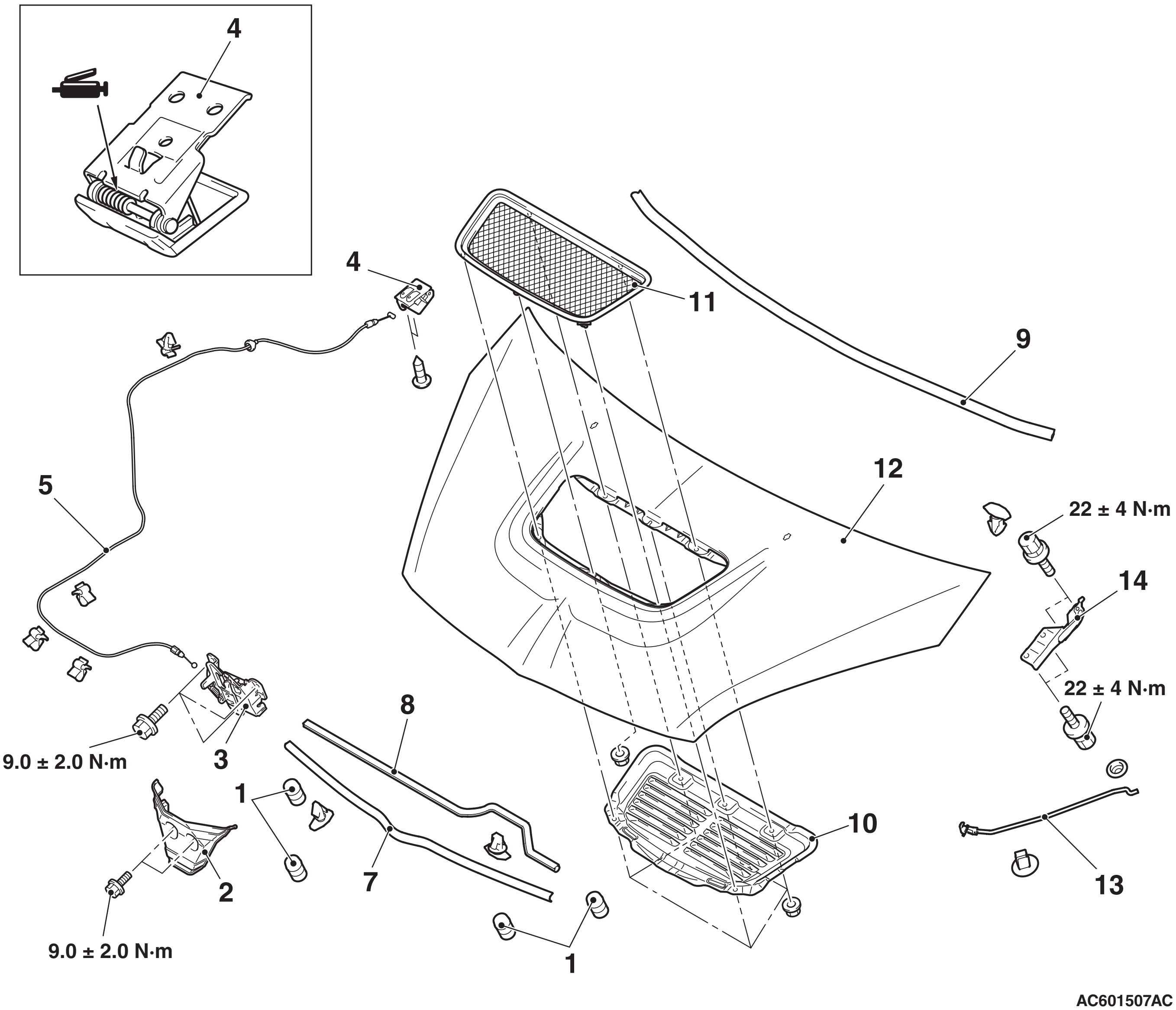
HOOD

REMOVAL AND INSTALLATION

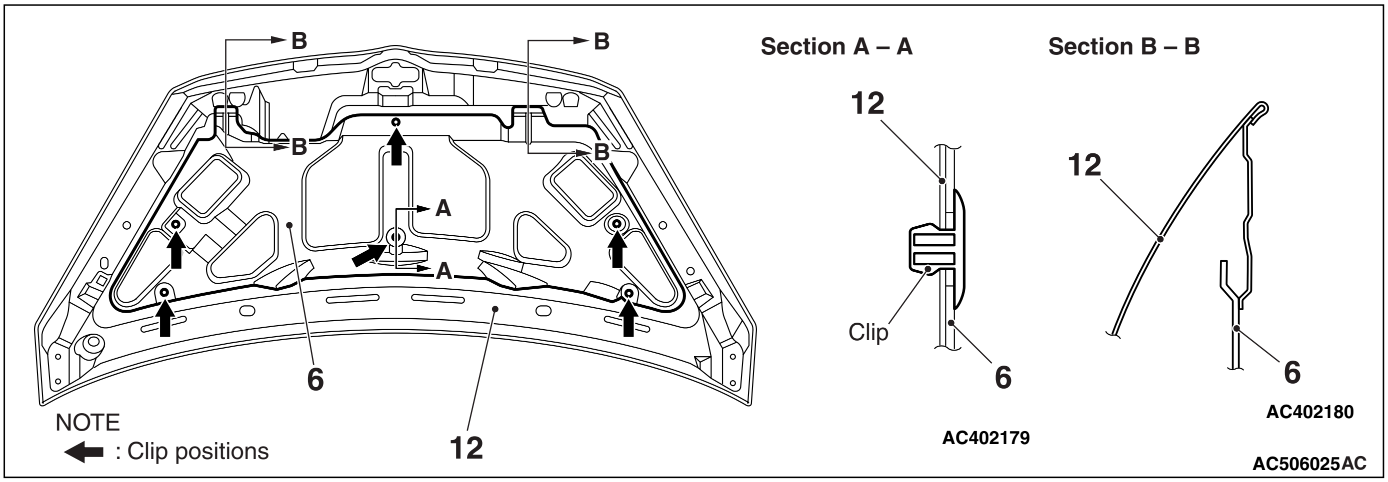
M1421001601144

Post-installation Operation

- Adjustment of Clearance Around Hood (Refer to P.42-4).
- Adjustment of Alignment of Hood Stepped Portion and Hood Striker (Refer to P.42-4).
- Adjustment of Hood Height (Refer to P.42-4).



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Group TOC



Damper removal step

1. Damper

Hood latch and hood lock release cable removal steps

- Front bumper assembly (Refer to GROUP 51, Front Bumper and Radiator Grille P.51-2 <Except for RALLIART Version-R>, P.51-2 <RALLIART Version-R>).

2. Hood latch cover <RALLIART Version-R>
3. Hood latch
4. Hood lock release handle

- Splash shield (Refer to P.42-7).

5. Hood lock release cable

Hood removal steps

6. Hood insulator <5M/T>
7. Hood weatherstrip
8. Hood weatherstrip front
9. Hood weatherstrip rear
10. Hood air inlet duct plate <RALLIART Version-R>
11. Hood air outlet garnish <RALLIART Version-R>

- Washer hose, Washer nozzle (Refer to GROUP 51, Windshield Washer P.51-33).

12. Hood
13. Hood support rod

- Front deck garnish (Refer to GROUP 51,Windshield Wiper P.51-29).

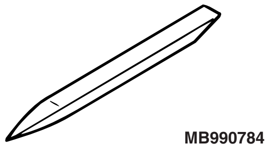
14. Hood hinge

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FENDER

SPECIAL TOOL

M1421000600375

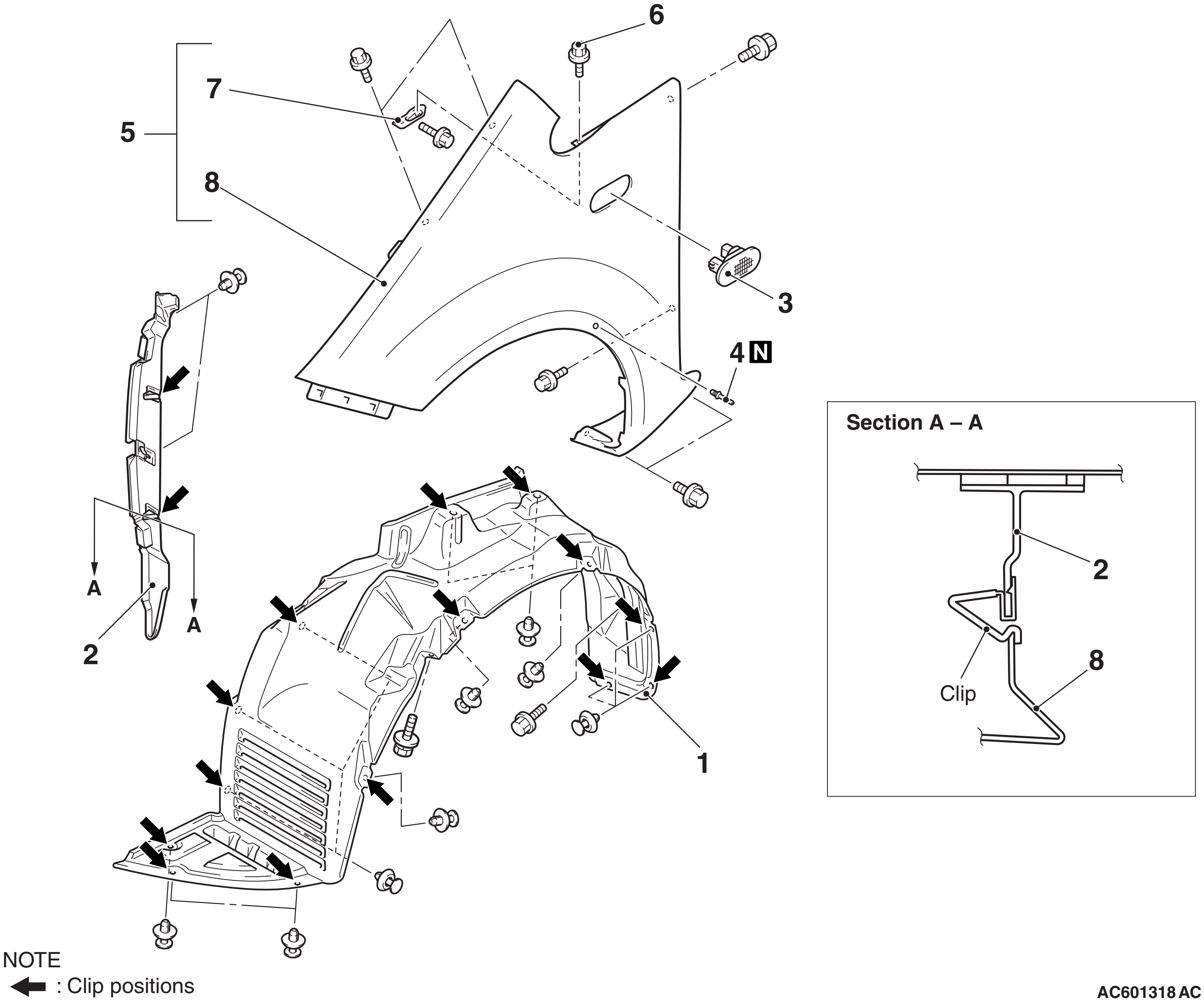
Tool	Number	Name	Use
	MB990784	Ornament remover	Side turn-signal lamp removal

FENDER

REMOVAL AND INSTALLATION

M1421001900971

Pre-removal Operation
- Overfender Removal <Vehicles with overfender> (Refer to GROUP 51, Overfender P.51-11).



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Splash shield removal step

1. Splash shield

Fender removal steps

1. Splash shield
2. Fender rear protector

- Front deck garnish (Refer to GROUP 51, Windshield Wiper P.51-29).
- Front side bracket (Refer to GROUP 51, Front Bumper and Radiator Grille P.51-2 <Except for RALLIART Version-R>, P.51-2 <RALLIART Version-R>.)
- Headlamp assembly (Refer to GROUP 54A, Headlamp P.54A-73).

Fender removal steps (Continued)

- Side air dam <Vehicles with side air dam> (Refer to GROUP 51, Side Air Dam P.51-23 <Except for RALLIART Version-R>, P.51-25 <RALLIART Version-R>.)

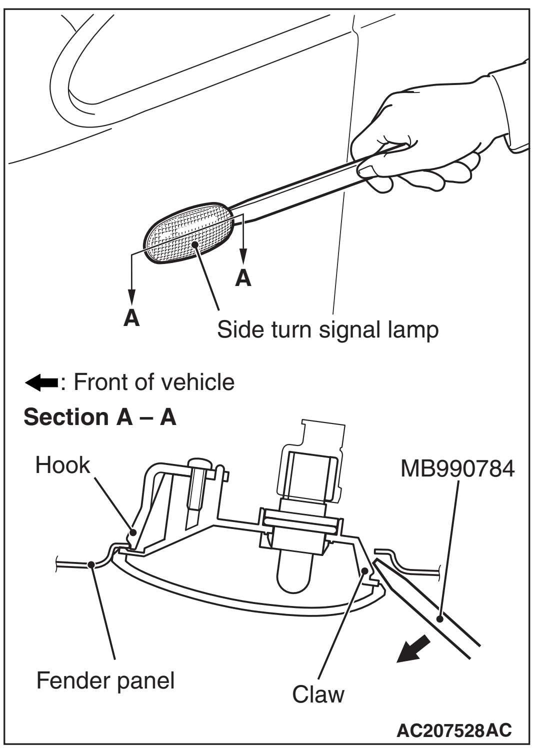
<<**A**>> >>**A**<< 3. Side turn signal lamp

<<**B**>> >>**B**<< 4. Rivet <Vehicles with RALLIART Version-R>

5. Fender assembly
6. Fender bracket mounting bolt
7. fender bracket
8. Fender

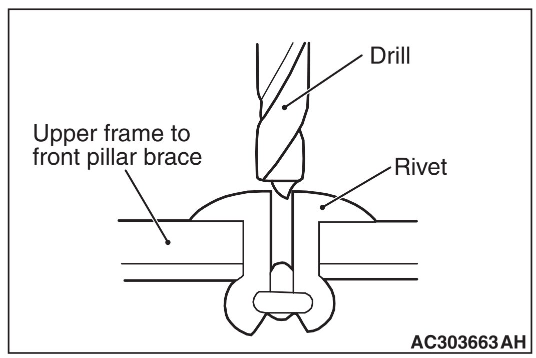
REMOVAL SERVICE POINT

<<A>> SIDE TURN -SIGNAL LAMP REMOVAL



Insert the special tool Ornament Remover (MB990784) as shown to compress the hook and then disengage the claw. Then remove the side turn signal lamp.

<<B>> RIVET REMOVAL

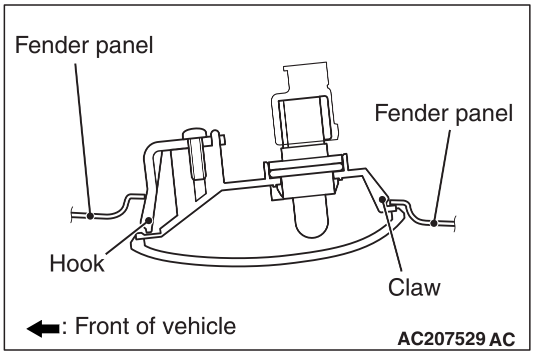


Use a drill (4.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

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Group TOC

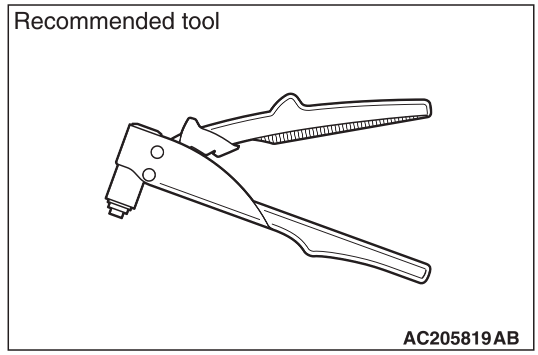
INSTALLATION SERVICE POINT

>>A<< SIDE TURN -SIGNAL LAMP INSTALLATION

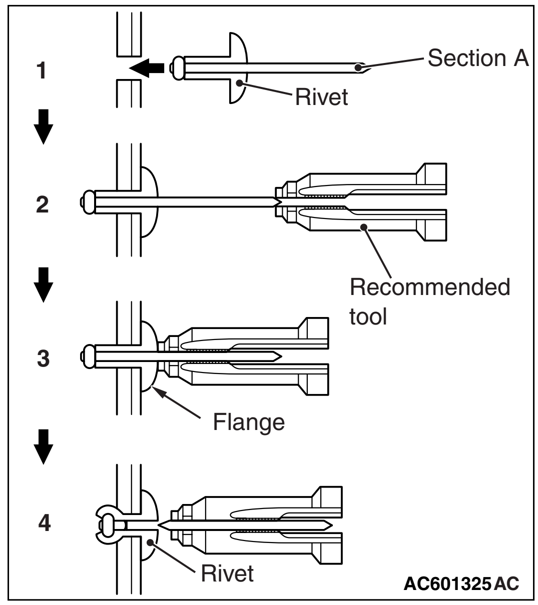


Engage the claw and then the hook into the fender panel to install the side turn signal lamp.

>>B<< RIVET INSTALLATION



Use recommended tool shown in the illustration to connect the rivet by the following procedure.



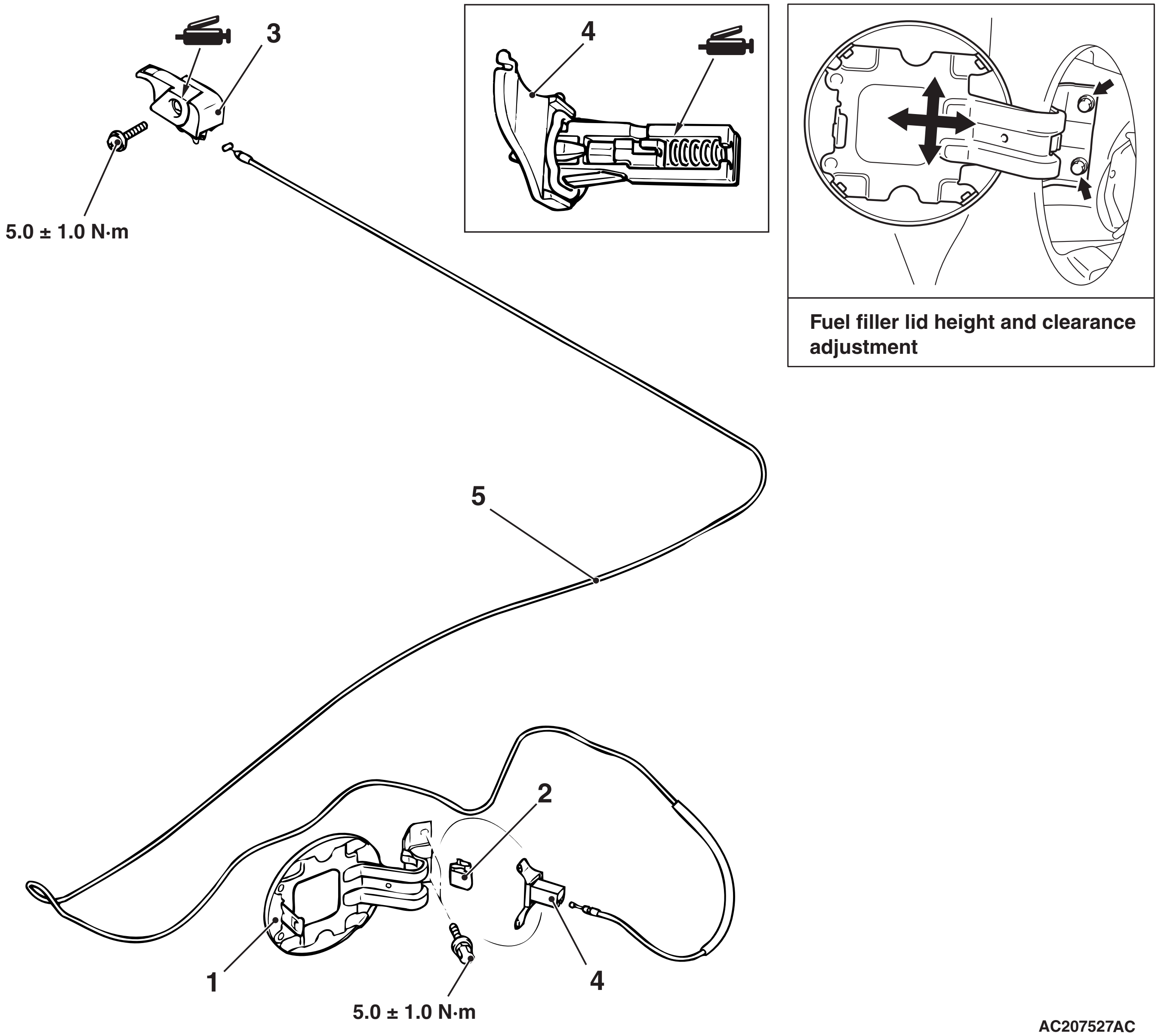
1. Insert the rivet into the base material (upper frame to front pillar brace and front fender side bracket).
2. Place the recommended tool over section A of the rivet.
3. While pushing the flange surface of the rivet with the recommended tool, press the handle of the tool.
4. The thin part of section A of the rivet will break and the rivet will then be attached.

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FUEL FILLER LID

REMOVAL AND INSTALLATION

M1421002500426



Removal steps

1. Fuel filler lid panel assembly
2. Fuel filler lid damper spring
- Front scuff plate, Rear scuff plate, Centre pillar trim lower (Refer to GROUP 52A, Interior Trim P.52A-11).
3. Fuel filler lid lock release handle
- Front seat <Driver's side> (Refer to GROUP 52A, Front Seat P.52A-20).

Removal steps (Continued)

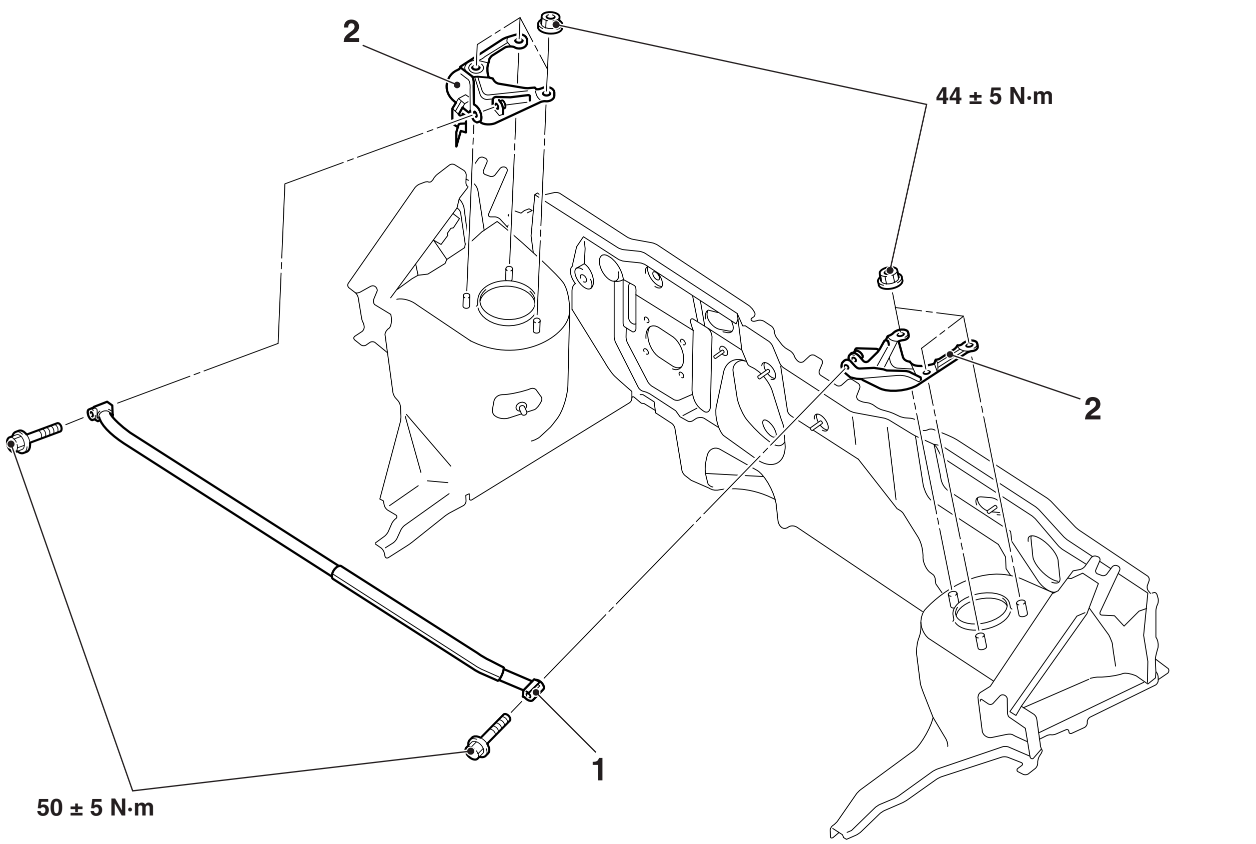
- Rear seat (Refer to GROUP 52A, Rear Seat P.52A-27).
- Quarter trim lower (Refer to GROUP 52A, Interior Trim P.52A-11).
4. Fuel filler lid hook
5. Fuel filler lid lock release cable

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Group TOC

STRUT TOWER BAR <4G1>

REMOVAL AND INSTALLATION

M1421005600187



Removal steps

1. Strut tower bar

Removal steps (Continued)

- Cowl top panel (Refer to P.42-81.)

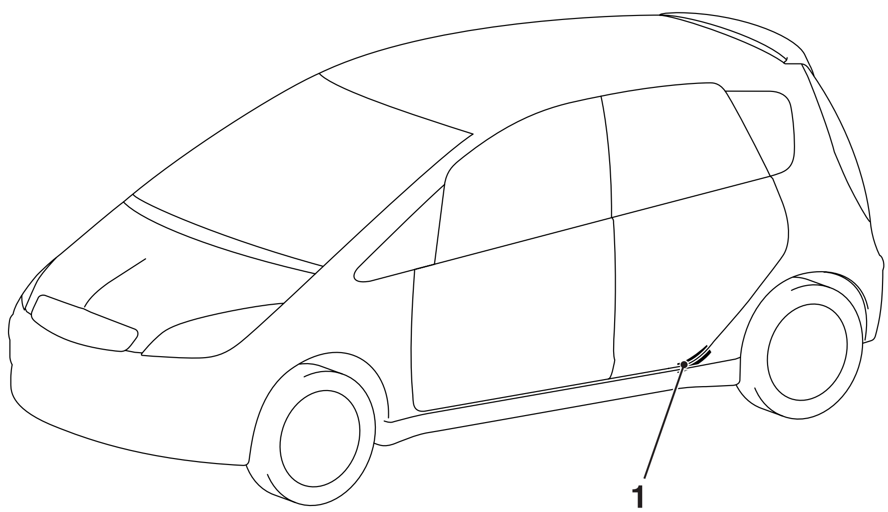
2. Strut stiffener plate

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PROTECTOR FILM

REMOVAL AND INSTALLATION

M1421007800132



Removal

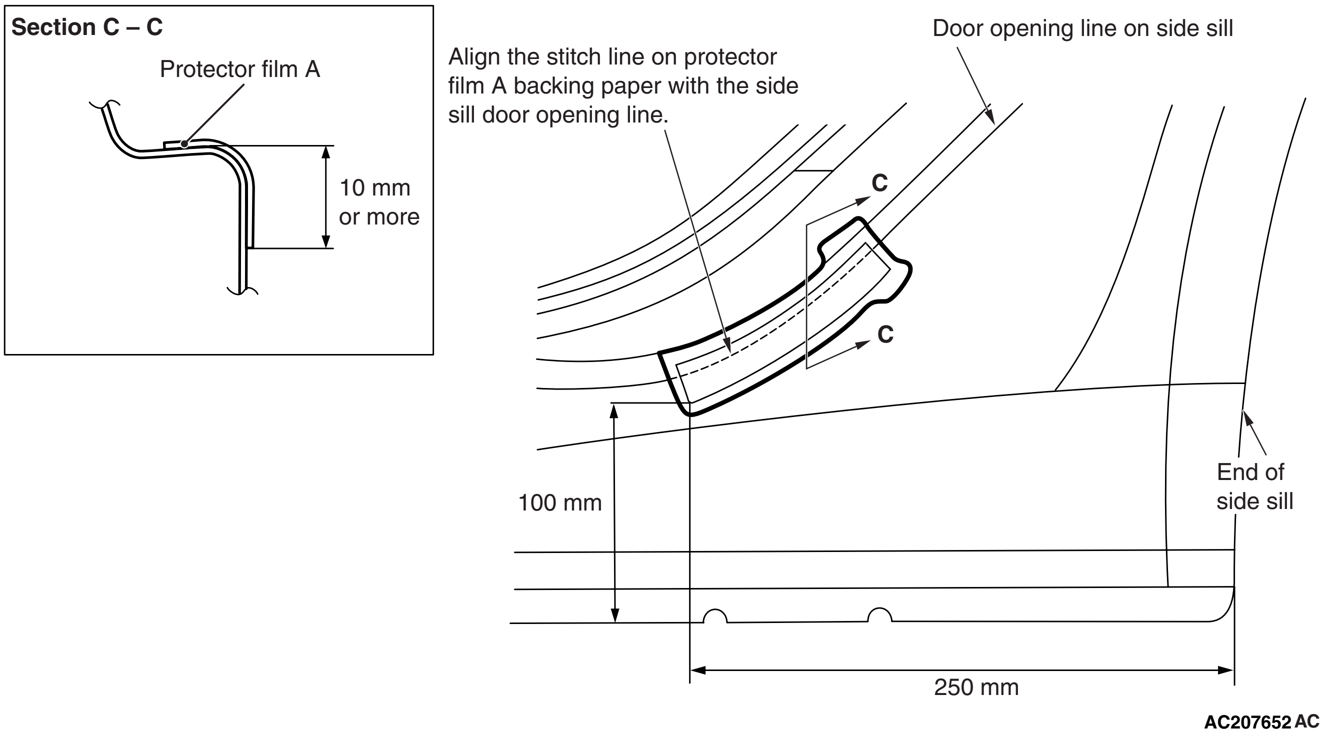
>>**A**<< 1. Protector film A <Vehicles without side air dam>

INSTALLATION SERVICE POINT

>>A<<PROTECTOR FILM A INSTALLATION

1. Installation point

(1) Protector film A



⚠ CAUTION

- **The ambient temperature should be 20 to 38°C. Ensure that the working area is clean.**
- **If ambient temperature is less than 20°C, heat the protector film and application surface to a temperature of 20 to 30°C.**
- **Be careful that air bubbles are not formed under the protector film.**

2. Installation procedure

(1) Use isopropyl alcohol to degrease the protector film application surface.

(2) Remove backing paper from the protector film, and apply the film to the specified position.

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WINDOW GLASS

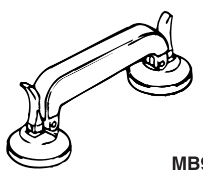
ADHESIVE

M1422000500177

Item	Specified adhesive
Windshield	• 3M ATD Part No.8609 Super Fast Urethane Auto Glass Sealant or equivalent • 3M ATD Part No.8608 Super Fast Urethane Primer or equivalent
Delta window glass	
Quarter window glass	
Tailgate window glass	

SPECIAL TOOL

M1422000600389

Tool	Number	Name	Use
	MB990480	Window glass holder	Window glass removal and installation

GENERAL

M1422000100533

The windshield, delta window glass, quarter window glass and tailgate window glass are attached by an urethane-base adhesive to the window frame. This adhesive provides improved glass holding and sealing, and also gives body openings a greater structural strength.

ITEMS

Name	Remark
Adhesive	3M ATD Part No.8609 Super Fast Urethane Auto Glass Sealant or equivalent
Primer	3M ATD Part No.8608 Super Fast Urethane Primer or equivalent
Spacers	Available as service part
Dam	Available as service part
Anti-rust solvent (or Tectyl 506T.Valvoline Oil Company)	For rust prevention
Isopropyl alcohol	For grease removal from bonded surface
Steel piano wire	For cutting adhesive (Dia. × length. 0.6mm × 1m)
Glass adhesive knife	For cutting adhesive
Adhesive gun	For pressing-out adhesive

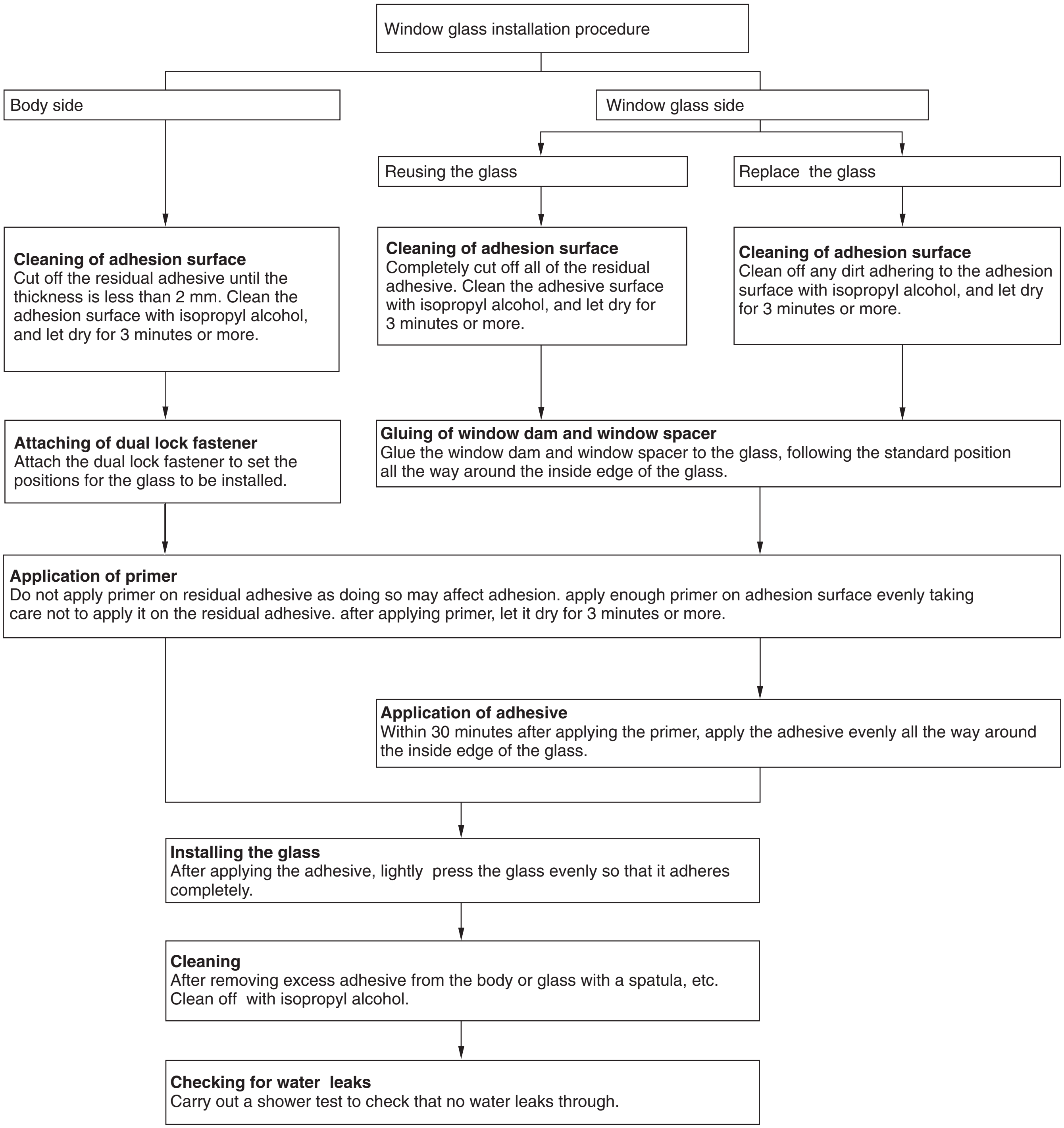
HANDLING OF AUTO WINDOW SEALER

Keep the sealant in a cool place, not exposed to the direct rays of the sun. Do not place any heavy article on the sealant nor press it, otherwise it will become deformed. Avoid storing the sealant for more than 6 months, because it will lose its sealing effect.

BODY PINCH-WELD FLANGE SERVICING

Before servicing the body pinch-weld flange, remove old adhesive completely. If the flange requires painting, bake it after painting is completed.

WINDOW GLASS INSTALLATION



AC306636AD

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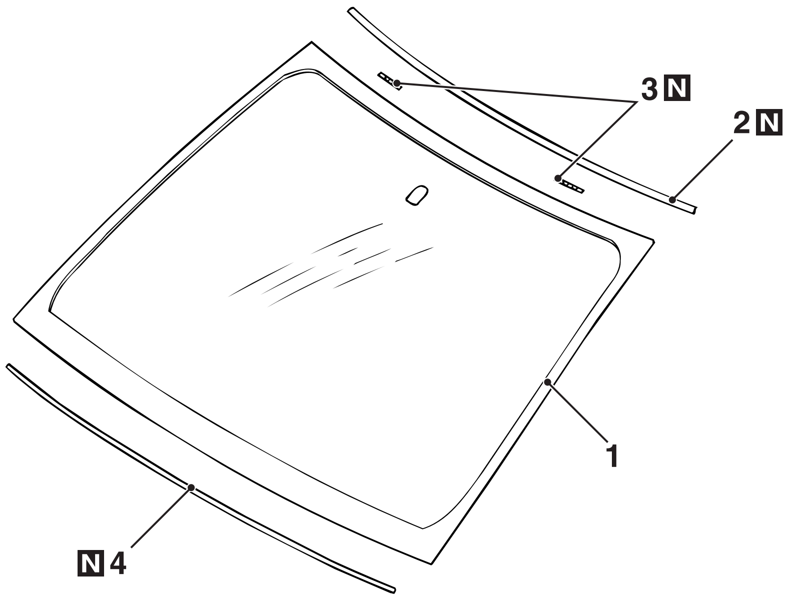
WINDSHIELD

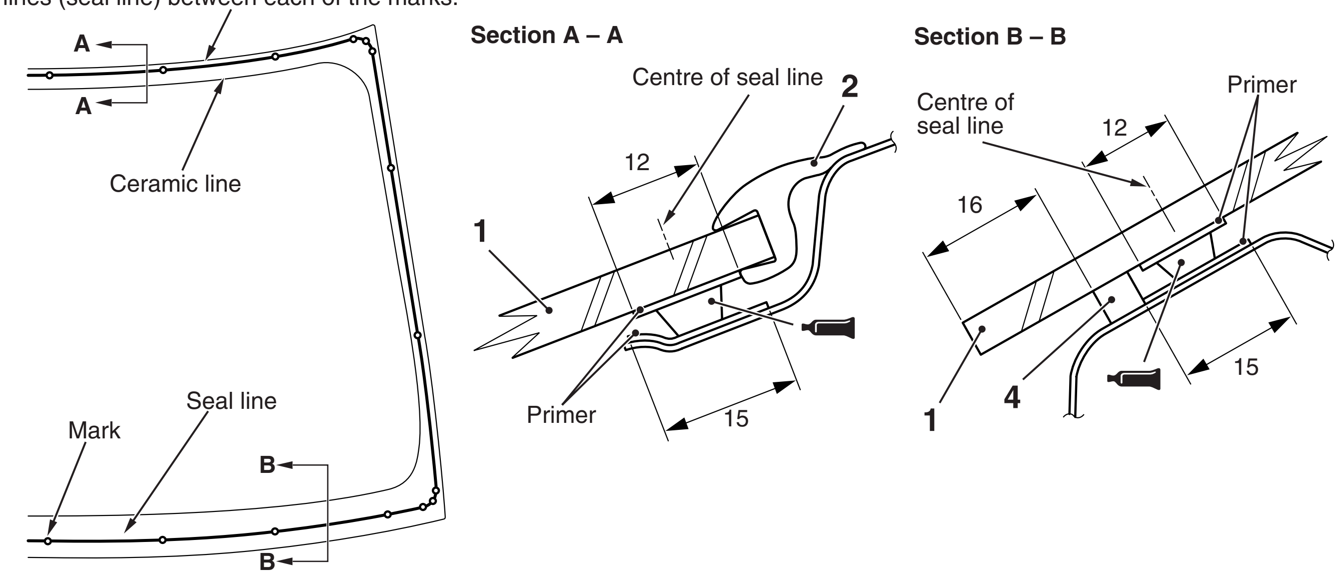
REMOVAL AND INSTALLATION

M1422001000506

Pre-removal and Post-installation Operation

- Front Deck Garnish Removal and Installation (Refer to GROUP 51, Windshield Wiper P.51-29).
- Roof Drip Moulding Removal and Installation (Refer to GROUP 51, Moulding P.51-14).
- Front Pillar Trim Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-11).
- Room Mirror Removal and Installation (Refer to GROUP 52A, Inside Rearview Mirror P.52A-19).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC313737AB

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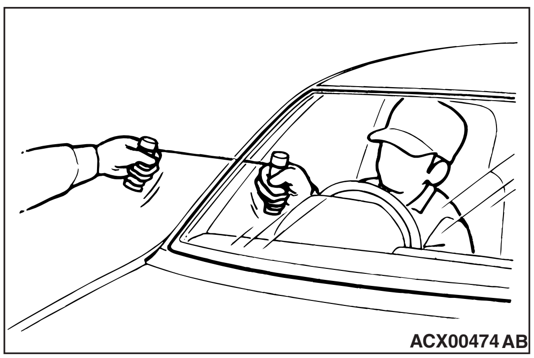
			Removal steps
<<**A**>>	>>**B**<<	1.	Windshield
		2.	Windshield moulding

		Removal steps (Continued)
>>**A**<<	3.	Glass stopper
>>**A**<<	4.	Windshield spacer

REMOVAL SERVICE POINT

<<A>> WINDSHIELD REMOVAL

1. To protect the body (paint surface), apply protective tape to all body areas around the installed windshield.
2. Using piano wire.
   (1) Use a knife to cut away the moulding.
   (2) Using a sharp-point drill, make a hole in the windshield adhesive.
   (3) Pass the piano wire from the inside of the vehicle through the hole.



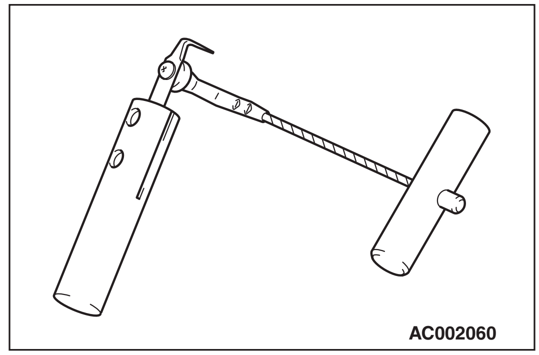
ACX00474 AB

⚠ CAUTION

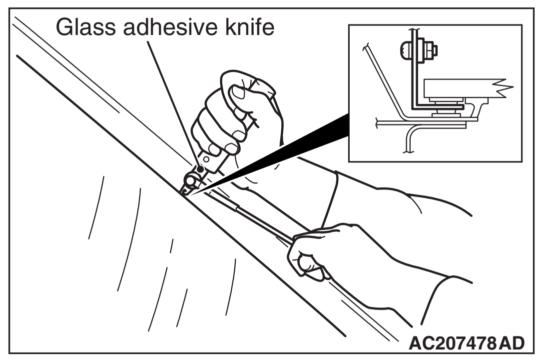
Do not let the piano wire touch the edge of the windshield.

   (4) Pull the piano wire alternately from the inside and outside along the windshield to cut the adhesive.

⚠ CAUTION



AC002060

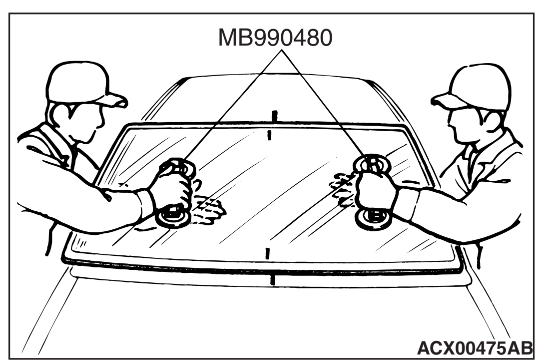


AC207478 AD

Inserting the glass adhesive knife too deeply into windshield adhesive may damage windshield.

3. Using glass adhesive knife

   Keep glass adhesive knife at right angles with the windshield edge, and put the blade at windshield edge and surface. Then cut away adhesive along the windshield edge.

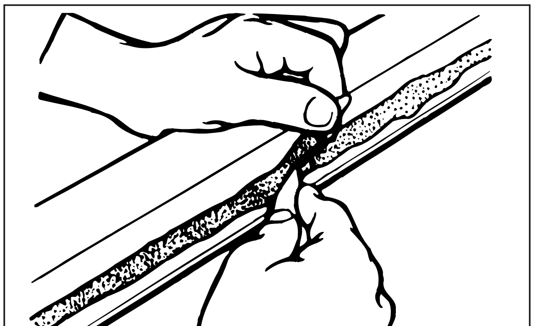


ACX00475 AB

4. Use special tool window glass holder (MB990480) to remove the windshield.

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⚠ CAUTION



ACX00476 AB

- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paintwork on the body surface with the knife. If the paintwork is damaged, repair the damaged area with repair paint or anti-rust agent.**

5. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
6. Finish the flange surfaces so that they are smooth.
7. If the windshield glass is reused, scrape away all traces of old adhesive from the glass.

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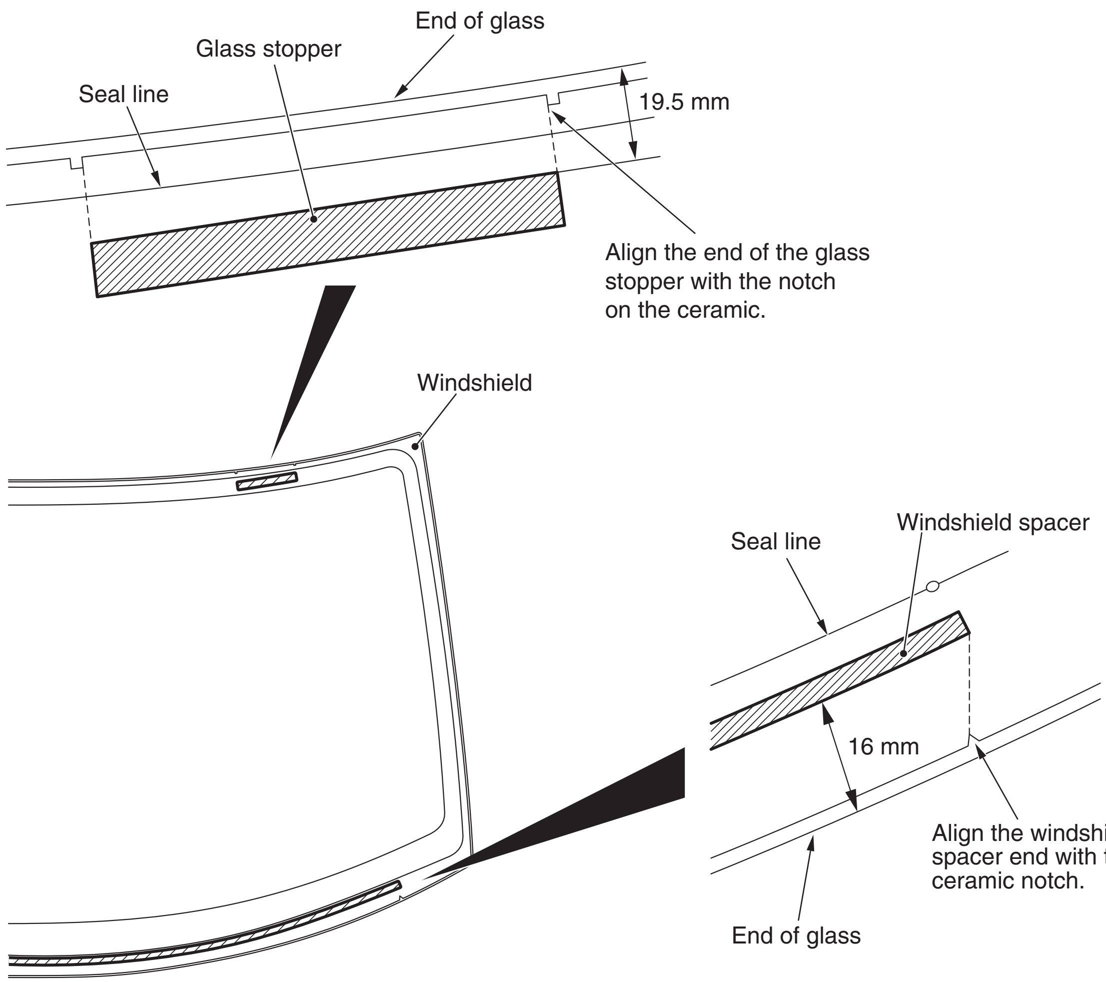
INSTALLATION SERVICE POINTS

>>A<< WINDSHIELD SPACER/GLASS STOPPER INSTALLATION

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

1. Use isopropyl alcohol to degrease the inside and outside of the windshield and the body flanges.



AC104651AC

2. Position the windshield spacer, ensuring that there are no bends or warpages inside the windshield.
3. Secure the glass stoppers to the specified positions on the windshield glass.

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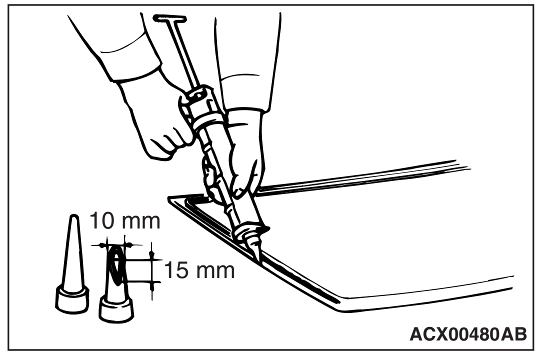
>>B<< WINDSHIELD INSTALLATION

1. Install the windshield moulding to the windshield.
2. When replacing the windshield, temporarily set the windshield against the body, and place a mating mark on the windshield and body.

⚠ CAUTION

- **The primer strengthens the adhesive, so be sure to apply it evenly around the entire circumference. However, a too thick application will weaken the adhesive.**
- **Do not touch the coated surface.**
- **Do not apply the primer on the remaining adhesive because of weakening the adhesive.**

3. Soak a sponge in the primer, and apply evenly to the windshield and the body in the specified places. If the old adhesive does not remain on the body flange because of the body panel or others, also apply the primer to the specified body side.
4. Allow the windshield to dry for at least three minutes after applying primer.



5. Fill a sealant gun with adhesive. Then apply the adhesive evenly around the windshield within 30 minutes after applying the primer.

   NOTE: Cut the tip of the sealant gun nozzle into a V shape to simplify adhesive application.

6. Align the mating marks on the windshield and the body, and lightly press the windshield evenly so that it adheres completely.
7. Use spatula or the like to remove any excessive adhesive. Then clean the surface with isopropyl alcohol.

⚠ CAUTION

- **Do not move the vehicle unless absolutely necessary.**
- **When testing for water leakage, do not pinch the end of the hose to spray the water.**

8. Wait 30 minutes or more, and then test for water leakage.

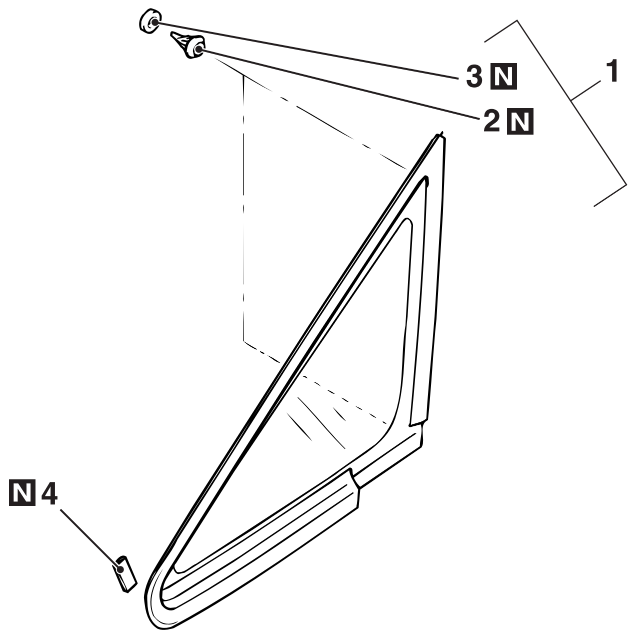
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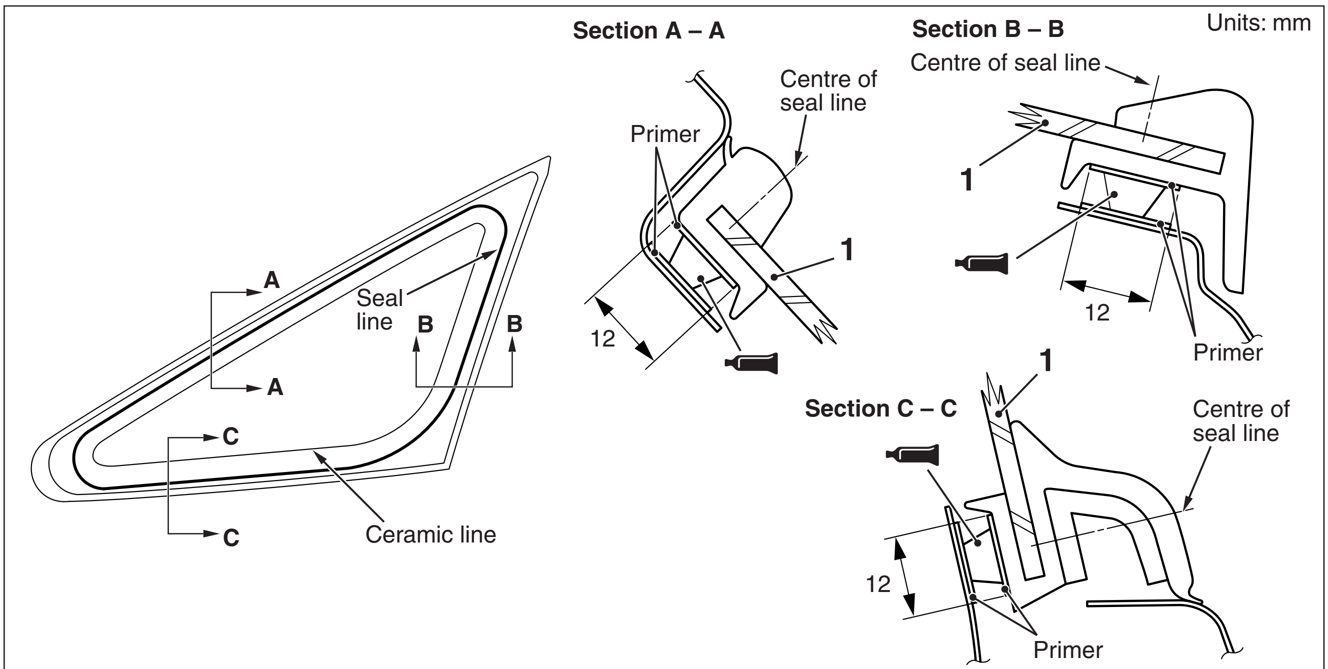
DELTA WINDOW GLASS

REMOVAL AND INSTALLATION

M1422001300110

Pre-removal and Post-installation Operation
- Front Fender Removal and Installation (Refer to P.42-7).
- Front Pillar Trim Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-11).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC313741AC

Removal steps

<<**A**>>	>>**B**<<	1.	Delta window glass assembly
	>>**B**<<	2.	Clip

Removal steps (Continued)

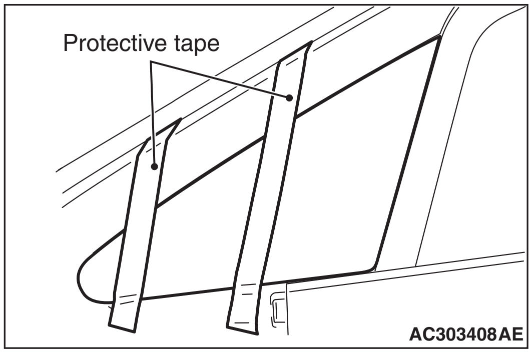
>>**B**<<	3.	Gasket
>>**A**<<	4.	Fastener

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REMOVAL SERVICE POINT

<<A>>DELTA WINDOW GLASS ASSEMBLY REMOVAL

1. In order to protect the body (paint surface), apply protective tape to all body areas around the installed delta window glass.

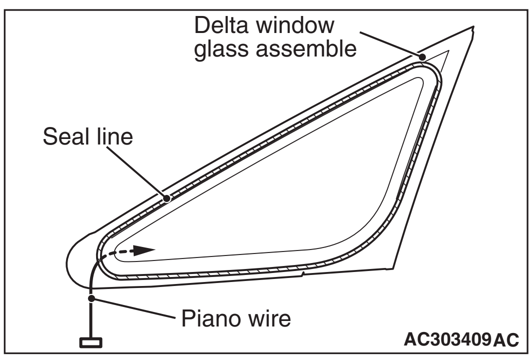


2. Stick adhesive tape to avoid the delta window glass from dropping.
3. Using a sharp-point drill, make hole in the delta window glass adhesive.

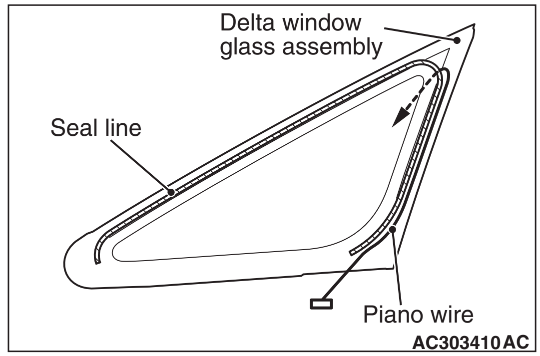
⚠ CAUTION

Do not let the piano wire touch the edge of the delta window glass.

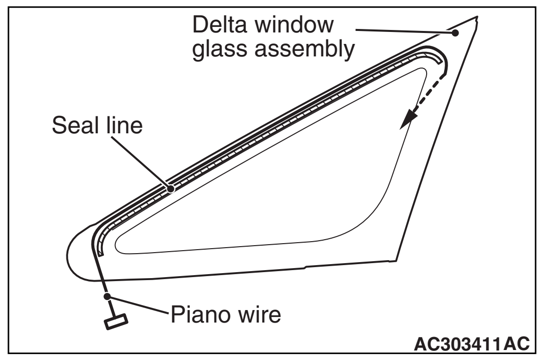
4. Cut off the delta window glass adhesive according to the procedure below.



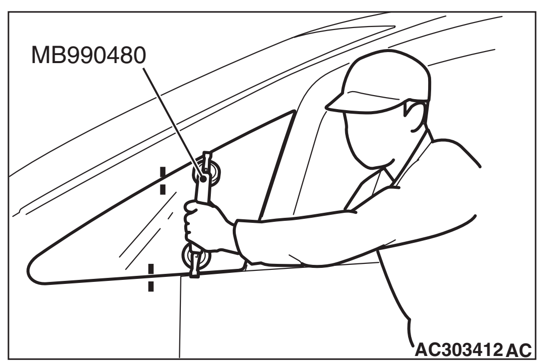
(1) To remove the adhesive from the bottom of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



(2) To remove the adhesive from the rear of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



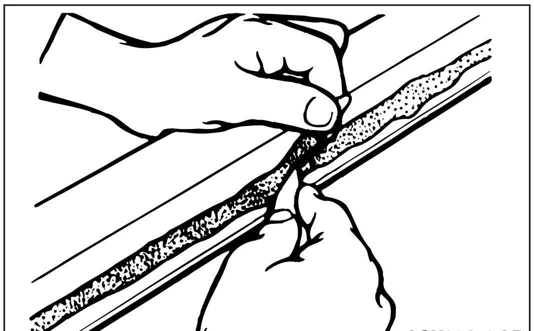
(3) To remove the adhesive from the front of the delta window glass, feed a piano wire into the passenger compartment through the hole, and then cut off the adhesive by pulling the piano wire alternately from the inside and outside of the vehicle.



5. Make mating marks on the delta window glass and body, and use the special tool (window glass holder, MB990480) to remove the delta window glass.

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⚠ CAUTION

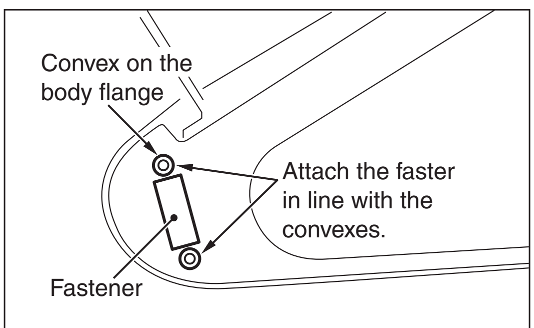

ACX00476 AB

- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paintwork on the body surface with the knife. If the paintwork is damaged, repair the damaged area with repair paint or anti-rust agent.**

6. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
7. Finish the flange surfaces so that they are smooth.
8. If the delta window glass is reused, scrape away all traces of old adhesive from the glass.

INSTALLATION SERVICE POINT

>>A<<FASTENER INSTALLATION



AC207281AC

1. Install the fasteners to the specified positions on the body flange.
2. Install the fasteners to the delta window glass at the positions which correspond to the fasteners on the body flange.

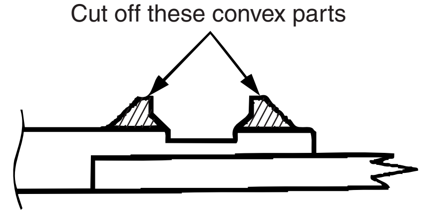
>>B<<GASKET/CLIP/DELTA WINDOW GLASS ASSEMBLY INSTALLATION

1. If the delta window glass is reused, follow the procedure below.

⚠ CAUTION

Do not forget gasket.

(1) Fit clips into body.



AC103606 AC

(2) Cut away clip fitting convex on quarter window glass.

NOTE: Convex gets broken when quarter window glass is removed.

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

2. Use isopropyl alcohol to degrease the inside and outside of the delta window glass and the body flanges.
3. Apply the primer and adhesive.
4. Install the delta window glass by the same procedure as for the windshield (Refer to P.42-16).

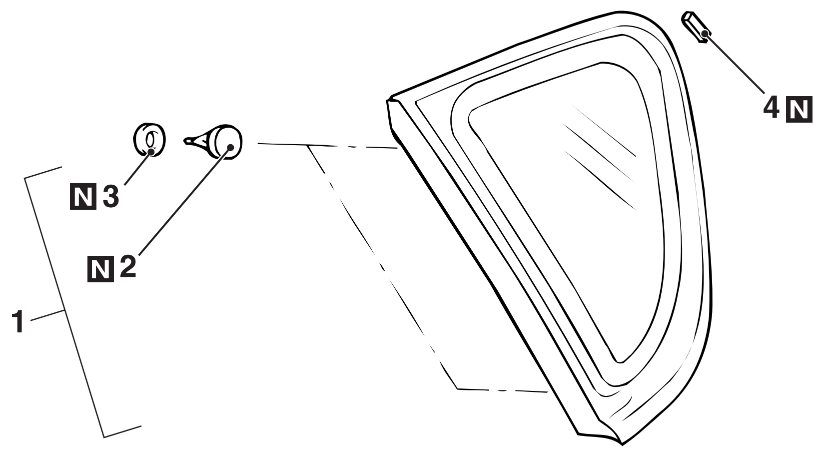
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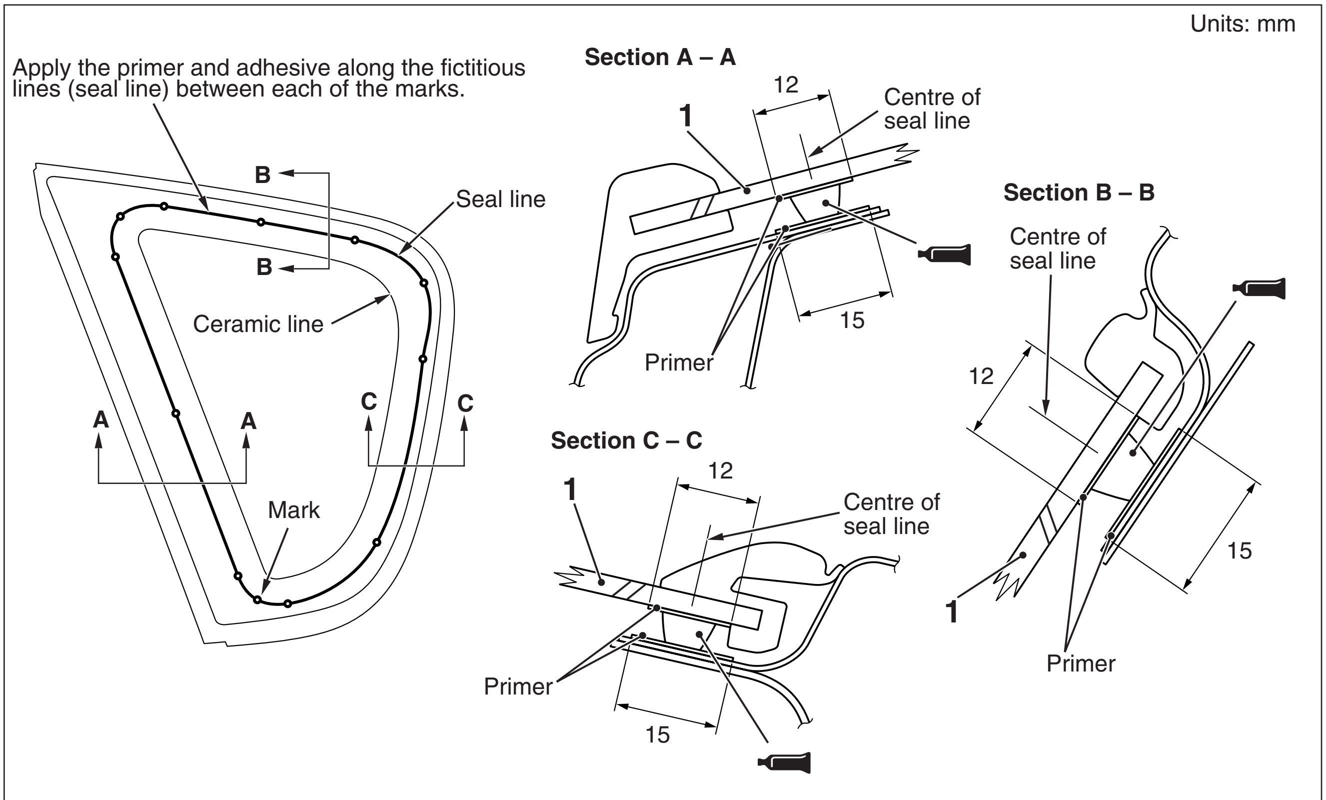
QUARTER WINDOW GLASS

REMOVAL AND INSTALLATION

M1422002500593

Pre-removal and Post-installation Operation
- Quarter Trim Upper Removal and Installation (Refer to GROUP 52A, Interior Trim P.52A-11).





Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC207279AC

Removal steps

<<**A**>> >>**B**<< 1. Quarter window glass
>>**B**<< 2. Clip

Removal steps (Continued)

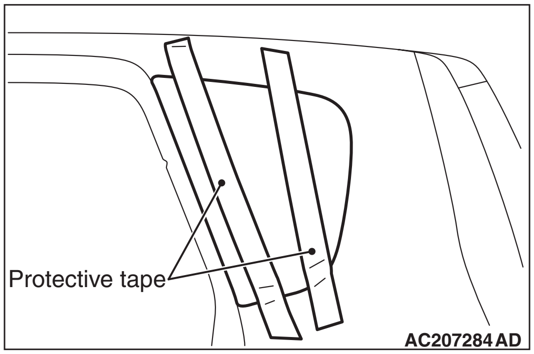
>>**B**<< 3. Gasket
>>**A**<< 4. Fastener

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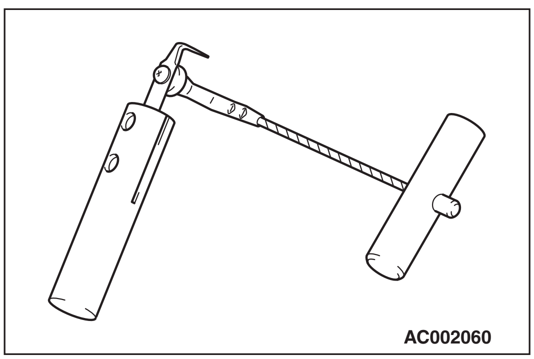
REMOVAL SERVICE POINT

<<A>> QUARTER WINDOW GLASS REMOVAL

1. In order to protect the body (paint surface), apply protective tape to all body areas around the installed quarter window glass.

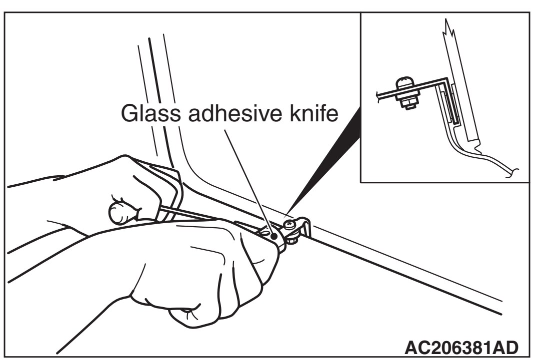


2. Apply adhesive tape to protect the quarter window glass.



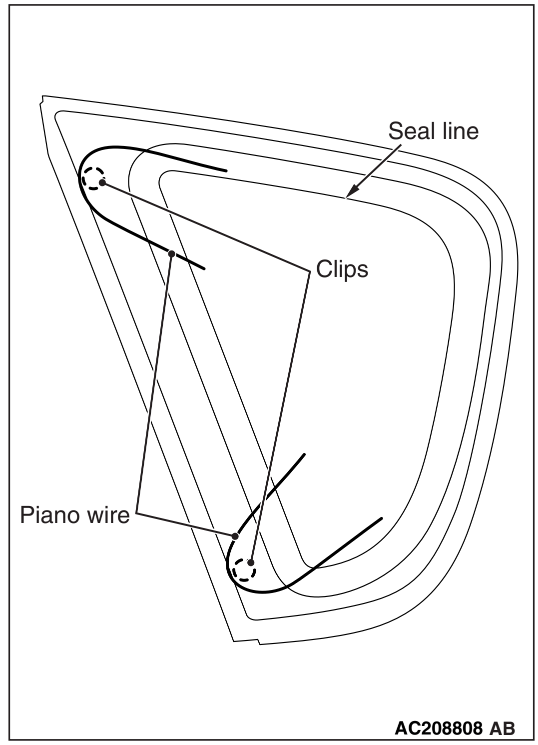
3. Use glass adhesive knife to cut away adhesive.

⚠ CAUTION

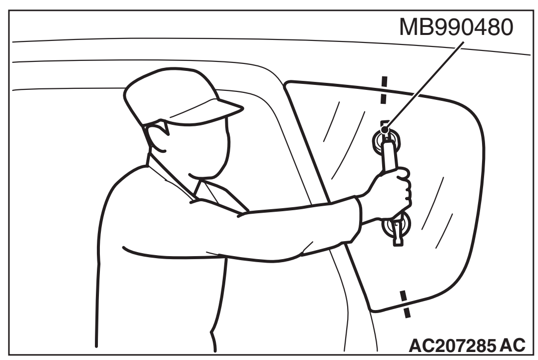


Inserting the adhesive knife too deeply into windshield adhesive may damage quarter window glass.

4. Working inside the vehicle, insert the tip of a windshield knife into the sealed part of the quarter window glass.
5. Keep the glass adhesive knife at right angles with body flange (from inside the vehicle), and put the blade at body flange. Then cut away adhesive along the body flange.



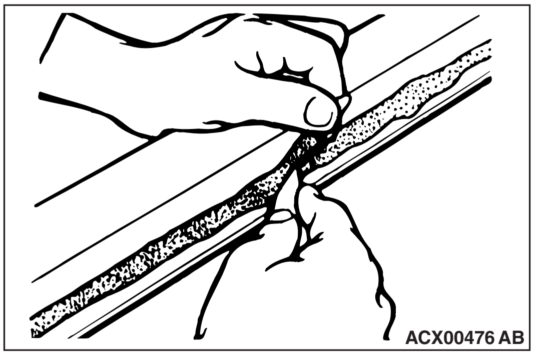
6. Separate the clips by using a piano wire.



7. Make mating marks on the quarter window glass and body.
8. Use special tool window glass holder (MB990480) to remove the quarter window glass.

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⚠ CAUTION



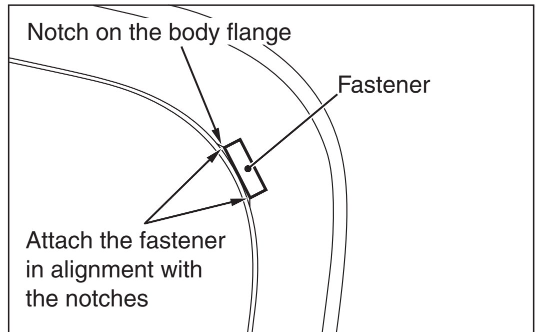
ACX00476 AB

- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paintwork on the body surface with the knife. If the paintwork is damaged, repair the damaged area with repair paint or anti-rust agent.**

9. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm around the entire circumference of the body flange.
10. Finish the flange surfaces so that they are smooth.
11. When reusing the quarter window glass, remove the adhesive still adhering to the quarter window glass, and clean with isopropyl alcohol.
12. Clean the body side in the same way.

INSTALLATION SERVICE POINT

>>A<<FASTENER INSTALLATION



AC207282 AC

1. Install the fasteners to the specified positions on the body flange.
2. Install the fasteners to the quarter window glass at the positions which correspond to the fasteners on the body flange.

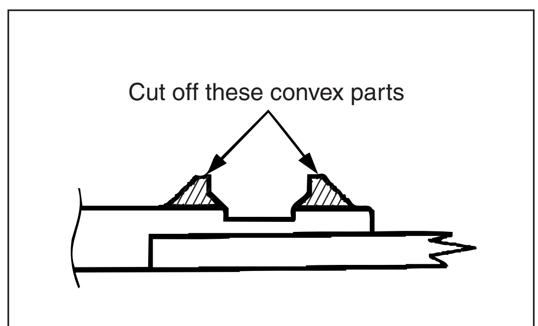
>>B<< GASKET/CLIP/QUARTER WINDOW GLASS INSTALLATION

1. Carry out the following procedure to re-install quarter window glass.

⚠ CAUTION

Do not forget gasket.

(1) Fit clips into body.



AC103606 AC

(2) Cut away clip fitting convex on quarter window glass.

NOTE: Convex gets broken when quarter window glass is removed.

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

2. Use isopropyl alcohol to degrease the inside and outside of the quarter window glass and the body flanges.
3. Apply the primer and adhesive.
4. Install the glass by the same procedure as for the windshield (Refer to P.42-16).

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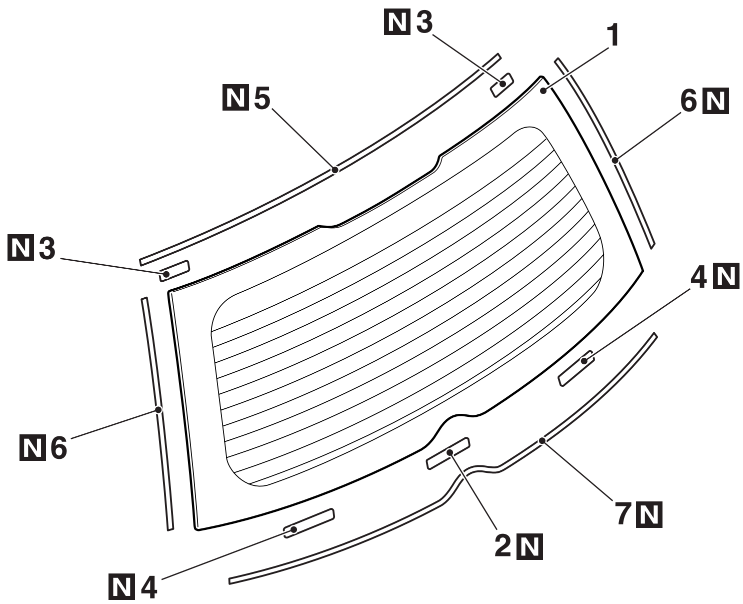
TAILGATE WINDOW GLASS

REMOVAL AND INSTALLATION

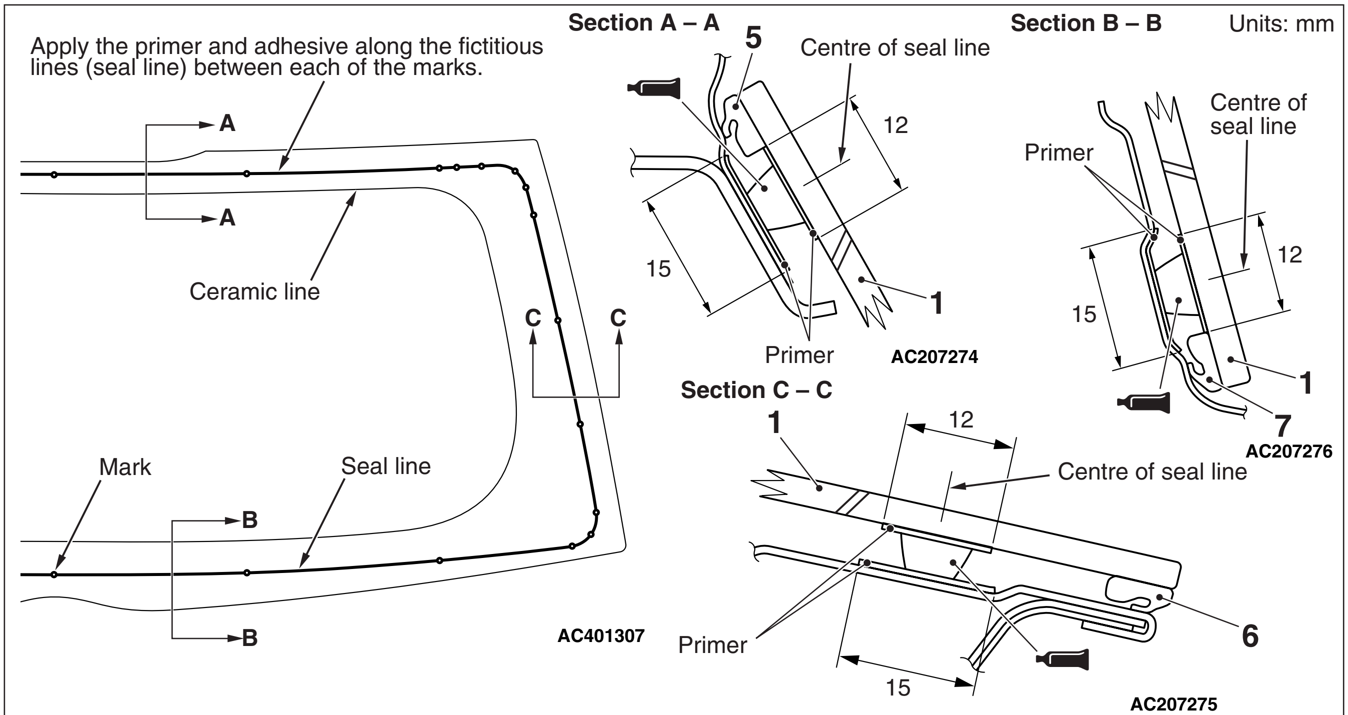
M1422003700471

Pre-removal and Post-installation Operation

- Rear Wiper Blade and Arm Assembly Removal and Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-37).
- Tailgate Spoiler Assembly Removal and Installation <Vehicles with tailgate spoiler> (Refer to GROUP 51, Tailgate Spoiler P.51-27).
- Tailgate Trim Removal and Installation (Refer to GROUP 52A, Tailgate Trim P.52A-15).



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Adhesive: 3M ATD Part No. 8609 Super Fast Urethane Auto Glass Sealant or equivalent and 3M ATD Part No. 8608 Super Fast Urethane Primer or equivalent

AC401312AC

Removal steps

- • Harness connector
- <<**A**>> >>**B**<< 1. Tailgate window glass
- >>**A**<< 2. Pin
- >>**A**<< 3. Fastener

Removal steps (Continued)

- >>**A**<< 4. Glass stopper
- >>**A**<< 5. Tailgate dam upper
- >>**A**<< 6. Tailgate dam side
- >>**A**<< 7. Tailgate dam lower

REMOVAL SERVICE POINT

<<A>> TAILGATE WINDOW GLASS REMOVAL

Remove the tailgate window glass using the same procedure as for the windshield (Refer to P.42-16).

NOTE: Use a piano wire to remove the tailgate window glass.

INSTALLATION SERVICE POINTS

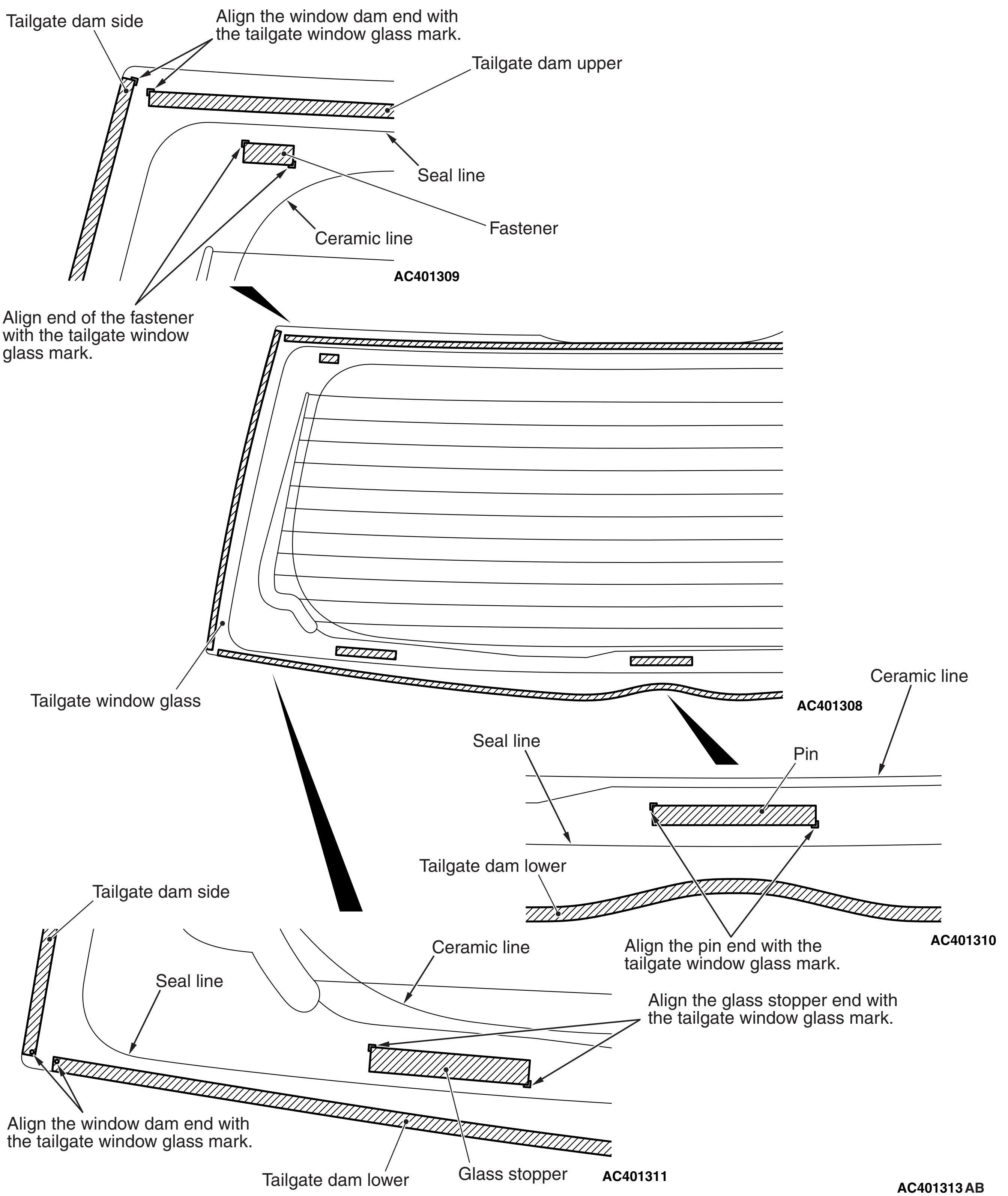
>>A<< TAILGATE DAM LOWER/TAILGATE DAM SIDE/TAILGATE DAM UPPER/GLASS STOPPER/FASTENER/PIN INSTALLATION

⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

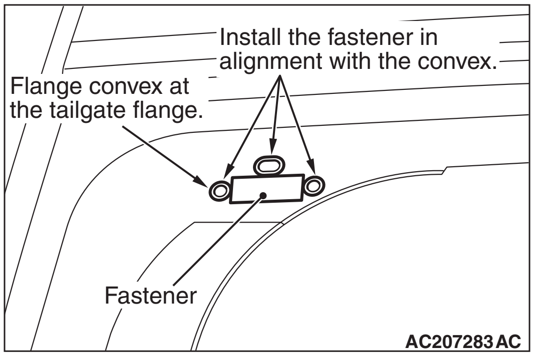
1. Use isopropyl alcohol to clean the inside edge of the tailgate window glass and the tailgate flange.

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2. Install the tailgate dam lower, the tailgate dam side, the tailgate dam upper, the glass stopper, the fasteners and the pin as shown in the illustration.

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3. Install the fasteners to the specified positions on the tailgate flange.

>>B<< TAILGATE WINDOW GLASS INSTALLATION

1. Apply the primer and adhesive.
2. Install the tailgate window glass in the same way as for the windshield installation (Refer to P.42-16).

DOOR

SERVICE SPECIFICATIONS

M1423000300176

Item	Standard value
Power window operation current (Power supply voltage 14.5 ± 0.5 V, at 25 °C) A	5 ± 1
Door outside handle play mm	3.3 ± 0.4
Door inside handle play mm	10.4 ± 0.5
Door inside handle lock knob stroke mm	15

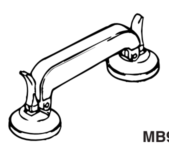
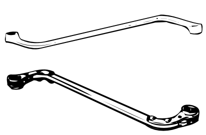
SEALANT

M1423000500158

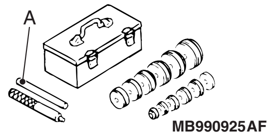
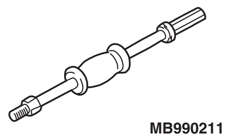
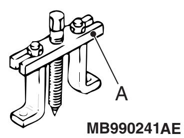
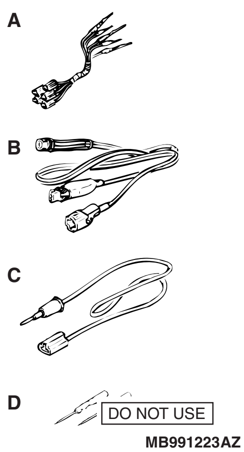
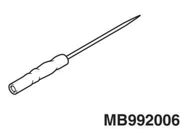
Item	Specified sealant
Door waterproof film	3M ATD Part No.8633 or equivalent

SPECIAL TOOLS

M1423000600520

Tool	Number	Name	Use
 MB990480	MB990480	Window glass holder	Removal of window regulator assembly
 MB990900	MB990900 or MB991164	Door hinge adjusting wrench	Door alignment

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Tool	Number	Name	Use
	MB990925 A: MB990939	Bearing and oil seal installer set A: Remover bar	Door striker adjustment
	MB990211	Sliding hammer	
	MB990241 A: MB990243	Axle shaft puller A: Body puller	
	MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222	Harness set A: Test harness B: LED harness C: LED harness adapter D: Probe	Terminal voltage measurement A: For checking connector pin contact pressure B: For checking power supply circuit C: For checking power supply circuit D: For connecting a locally sourced tester
	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

TROUBLESHOOTING

M1423000700419

The door system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

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ON-VEHICLE SERVICE

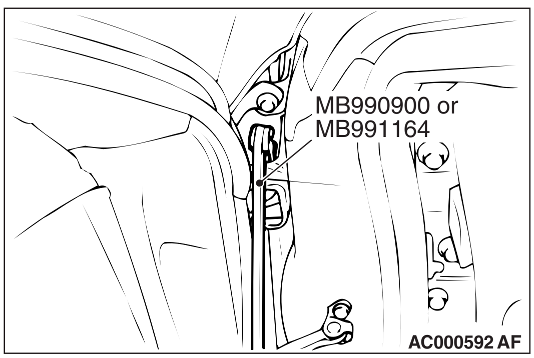
DOOR FIT ADJUSTMENT

M1423000900231

⚠ CAUTION

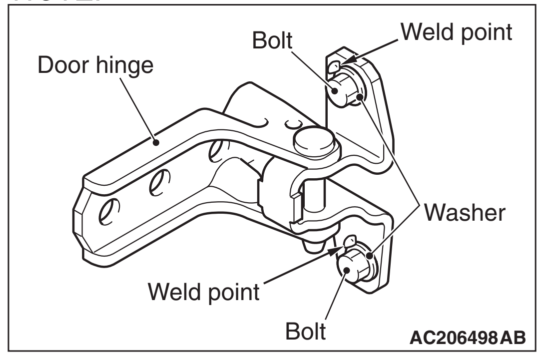
- **Attach protection tape to the fender and door edges where the hinge is installed.**
- **Do not rotate special tool door hinge adjusting wrench (MB991164) with a torque of over 98 N·m.**

1. When the clearance between the door and the body is uneven
   (1) Apply a protective tape to the fender and door edge around the hinge mounting area.
   (2) Remove the front pillar pad <front door only> (Refer to P.42-7).
   (3) Remove the centre pillar trim lower <rear door only> (Refer to GROUP 52A, Interior trim P.52A-11).



   (4) Use the special tool door hinge adjusting wrench (MB990900 or MB991164) to loosen the body-side door hinge mounting bolts.
   (5) Move the door to adjust until the clearance around the door is even.
2. When the door is not flush with the vehicle body surface.
   (1) Loosen the door-side hinge mounting bolts.

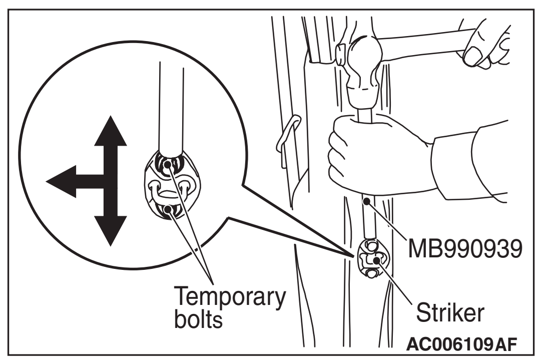
NOTE:



If the door hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.

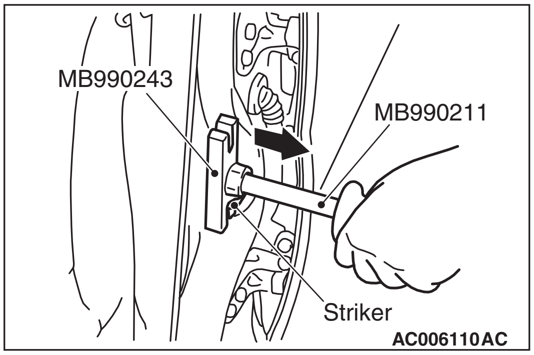
   a. Remove the door hinge (Refer to P.42-38).
   b. Use a chisel or grinder to release the door hinge mounting bolt washer, which is welded to the door hinge.
   c. On completion, paint the affected area with a suitable touch-in brush to prevent corrosion.
   d. Install the door hinge (Refer to P.42-38).

   (2) Move the door to adjust until the door is flush with the vehicle body.
3. When the door is stiff to lock and unlock:

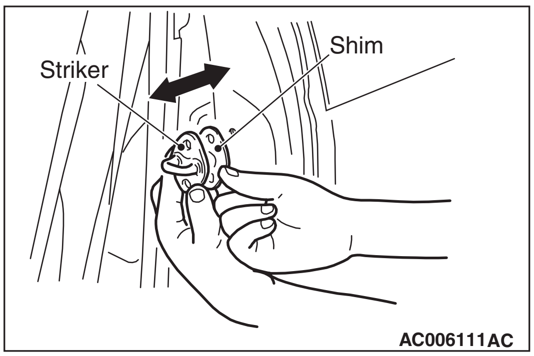


   (1) Adjustment by using the striker (toward the inside of the vehicle and vertical direction)
   Install an temporary bolts instead of the striker mounting bolt, and use special tool remover bar (MB990939) and a hammer to tap the bolts to the desired direction.

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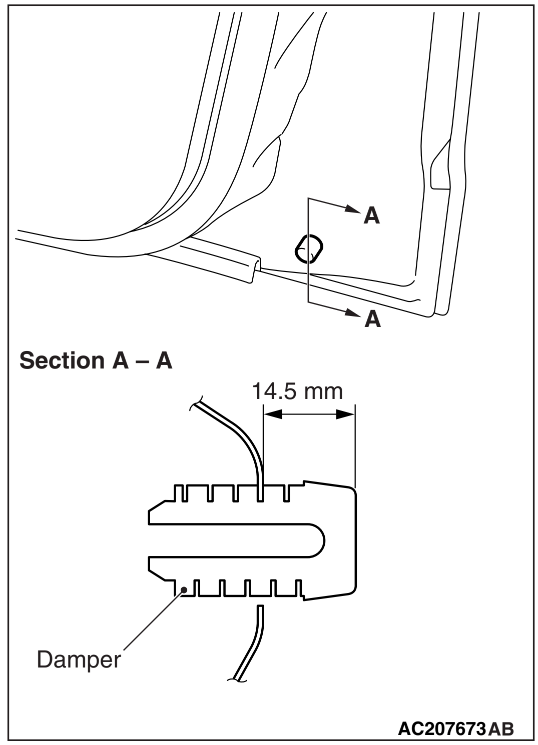
(2) Adjustment by using the striker (toward the outside of the vehicle)
Use special tools sliding hammer (MB990211) and body puller (MB990243) to pull the striker toward the outside of the vehicle.



(3) Adjustment by using shims (forward and rearward)
Increase or decrease the number of shims so that the striker engages with the door latch properly.

ADJUSTMENT OF FRONT DOOR HEIGHT

M1423009300065



Rotate the damper by using arrow mark on the damper as a guide to adjust the front door height. The damper height is altered by roughly 3 mm when the damper is rotated once.

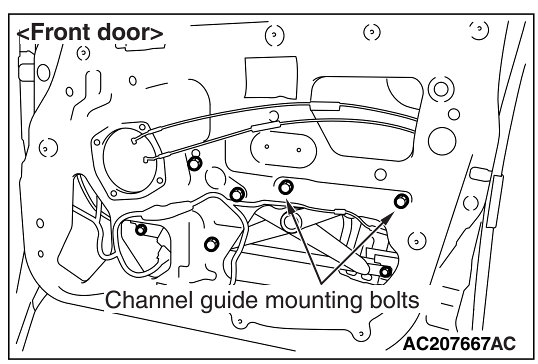
NOTE: If a rattling noise is heard due to the vibration of the door when the vehicle is being driven, adjust the damper height until the damper is seated on the vehicle body.

DOOR WINDOW GLASS ADJUSTMENT

M1423001000457

Check that the door glass operates smoothly and moves along the door glass runchannel when the door window glass is fully raised and fully lowered. If there is a problem, adjust by the following procedure.

1. Remove the door trim assembly (Refer to GROUP 52A, Door trim P.52A-13).
2. Remove the waterproof film (Refer to P.42-48).



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3. Raise the door window glass and loosen the channel guide mounting bolts to adjust the window glass slants appropriately.

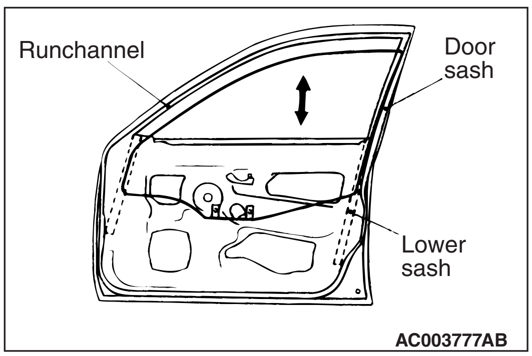
GLASS SLIDING MECHANISM CHECK AND ADJUSTMENT

M1429000900198

If the window glass automatically starts moving downwards at the wrong time while it is being raised, carry out the following adjustment or replacement procedures.

1. Remove the door trim assembly (Refer to GROUP 52A, Door trim P.52A-13).
2. Remove the waterproof film. (Refer to P.42-48).
3. Remove the window regulator assembly from the door window glass, and then raise and lower the door window glass by hand to check the operation force.

   NOTE: Insert a cushion or similar object to prevent damage to the glass if it should happen to fall down.



4. If the door window glass does not move up and down smoothly, check or repair the following points.
   - Check the installation condition of the runchannel.
   - Repair any twisting in the door sash.
   - Check the installation condition of the lower sash.
5. If repair or adjustment is not possible, replace the door assembly.

POWER WINDOW TIMER FUNCTION CHECK

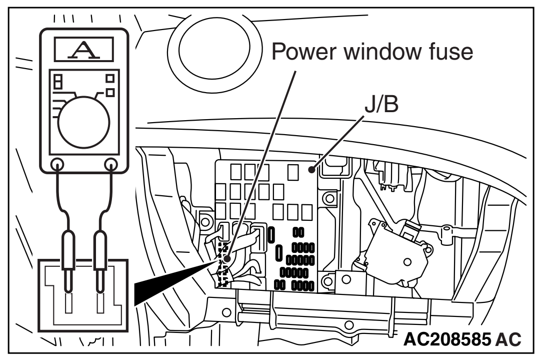
M1429004300251

Check the system as described below. If the system does not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

- Close the door and turn the ignition switch to the LOCK (OFF) position, and then check that the power windows operate for 30 seconds.
- The timer activates by closing the doors and turning the ignition switch to the LOCK (OFF) position. Check if the power windows operates within 30 seconds after the driver's door is opened while the timer is being activated. The timer period will be extended if the driver's door is opened, but the timer will be cancelled if the driver's door is closed while the timer is being activated.

POWER WINDOW OPERATING CURRENT CHECK

M1429001100366



1. Remove the power window fuse and connect an ammeter as shown in the illustration.
2. When the power window switch is pressed to the "UP" position, a large amount of current flows at the time the window starts to close and when it is fully closed, so measure the operation current in the interval between these two points.

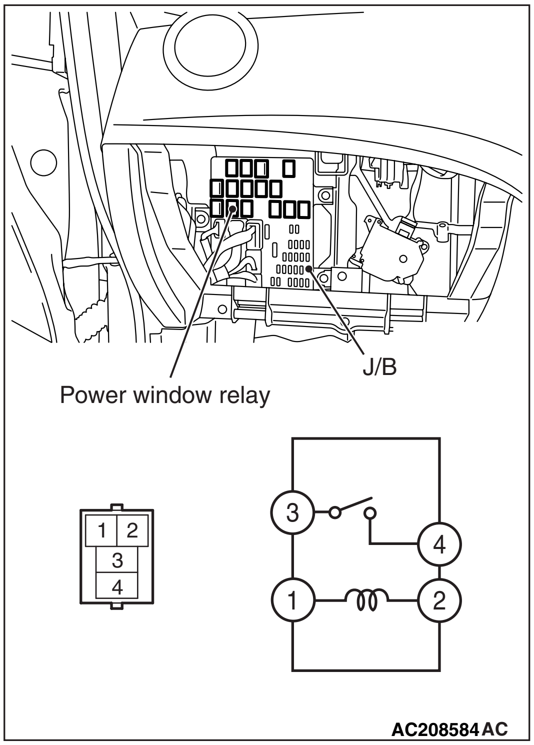
   Standard value: 5 $\pm$ 1A (Power supply voltage 14.5 $\pm$ 0.5V, 25°C)

3. If the operation current is outside the standard value, refer to P.42-35.

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POWER WINDOW RELAY CHECK

M1429001800440



Battery voltage	Tester connection	Specified condition
Not applied	3 – 4	Open circuit
• Connect terminal No.1 and the positive battery terminal. • Connect terminal No.2 and the negative battery terminal.	3 – 4	Continuity (Less than 2Ω)

CIRCUIT BREAKER (INCORPORATED IN THE POWER WINDOW MOTOR) INSPECTION

M1429001700175

1. Pull the power window switch to the UP position to fully close the door window glass, and keep pulling the switch for 10 additional seconds.
2. Release the power window switch from the UP position and immediately press it to the DOWN position. The condition of the circuit breaker is good if the door window glass starts to move downwards within 60 seconds.

POWER WINDOW CHECK

M1429004400344

Check the system as described below. If the system does not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

- Operate the power window switch of each seat to check that the power window works.
- Turn on the lock switch of the power window main switch, and operate the front and rear passenger's sub switches to check that the power windows do not work.
- Turn on the lock switch of the power window main switch, and operate the main switch to check that each power window does not operate.

CENTRAL DOOR LOCKING SYSTEM INSPECTION

M1427001100326

Check the system as described below. If the system does not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

- Check that the central door locking system works by operating the driver's door key cylinder and the inside lock knob.

NOTE: When the inside lock knob is operated with the driver's door opened, the driver's door is not locked.

- Check whether the driver's door is opened when the driver's door inside handle is pulled with all the doors locked. Also check whether all the doors (including the tailgate) are unlocked simultaneously.

CHECK OF KEY LOCK PREVENTION FUNCTION

M1427003300133

Check that the driver's door is not locked when the driver's door inside lock knob is operated with the driver's door opened. If it is locked, replace the door latch. Refer to P.42-45.

SHIFT "P" INTERLINK DOOR UNLOCK FUNCTION CHECK

M1427003400055

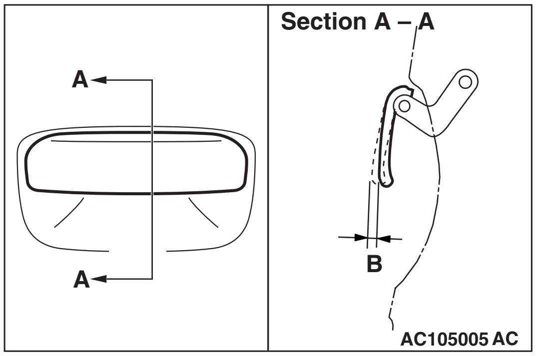
When the selector is moved to the "P" (parking) position with the ignition switch on, all the doors and the tailgate will be unlocked.
Carry out troubleshooting if the doors are not unlocked. Refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

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NOTE: The adjustment function allows you to change the selector "P" position-linked door unlocking's setting from disabled (initial setting)" or "enabled". Prior to the check, confirm which setting is activated.

DOOR OUTSIDE HANDLE PLAY CHECK

M1423001600374



1. Check that the door outside handle play is within the standard value range.

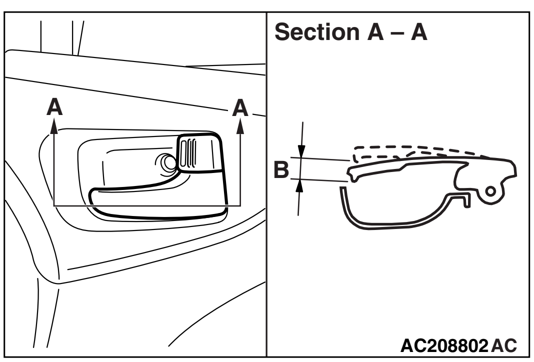
   Standard value (B): 3.3 ± 0.4 mm

2. If the door outside handle play is not within the standard value range, check the door outside handle or the door latch assembly. Replace if necessary.

DOOR INSIDE HANDLE PLAY ADJUSTMENT

M1423001500430

DOOR INSIDE HANDLE KNOB PLAY CHECK



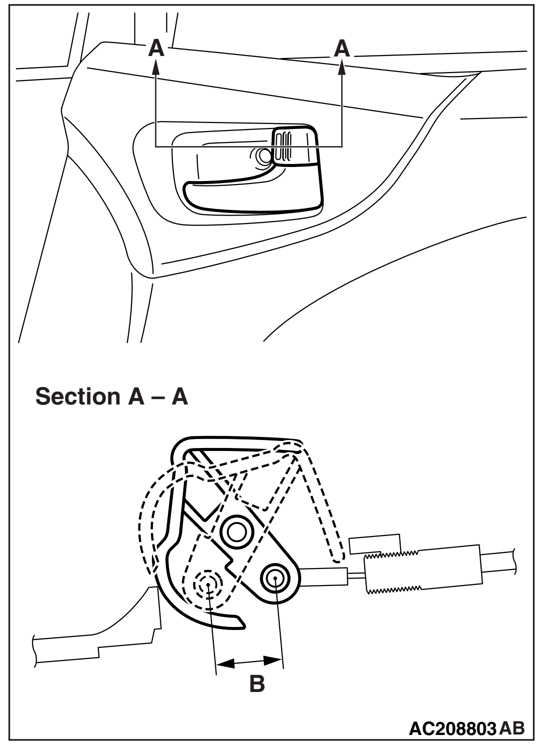
1. Check that the door inside handle play is within the standard value range.

   Standard value (B): 10.4 ± 0.5 mm

2. Check the door inside handle and door latch assembly, and replace them if they are out of the standard value.

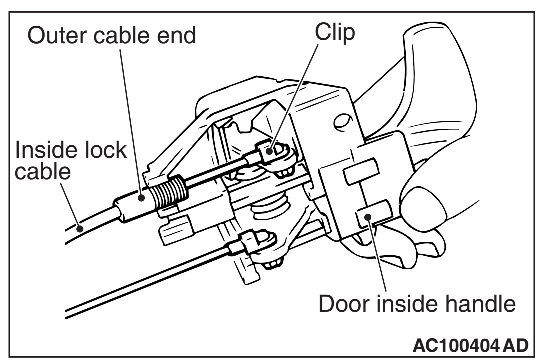
DOOR INSIDE HANDLE LOCK KNOB STROKE CHECK

1. Remove the door trim assembly. Refer to GROUP 52A, Door Trim P.52A-13.



2. Check that the stroke of the door inside handle lock knob satisfies the standard value.

   Standard value (B): 15 mm



3. If it is outside the standard value, adjust the stroke of the inside handle lock knob by using the outer cable end, which connects the inside handle lock knob to the inside lock cable.

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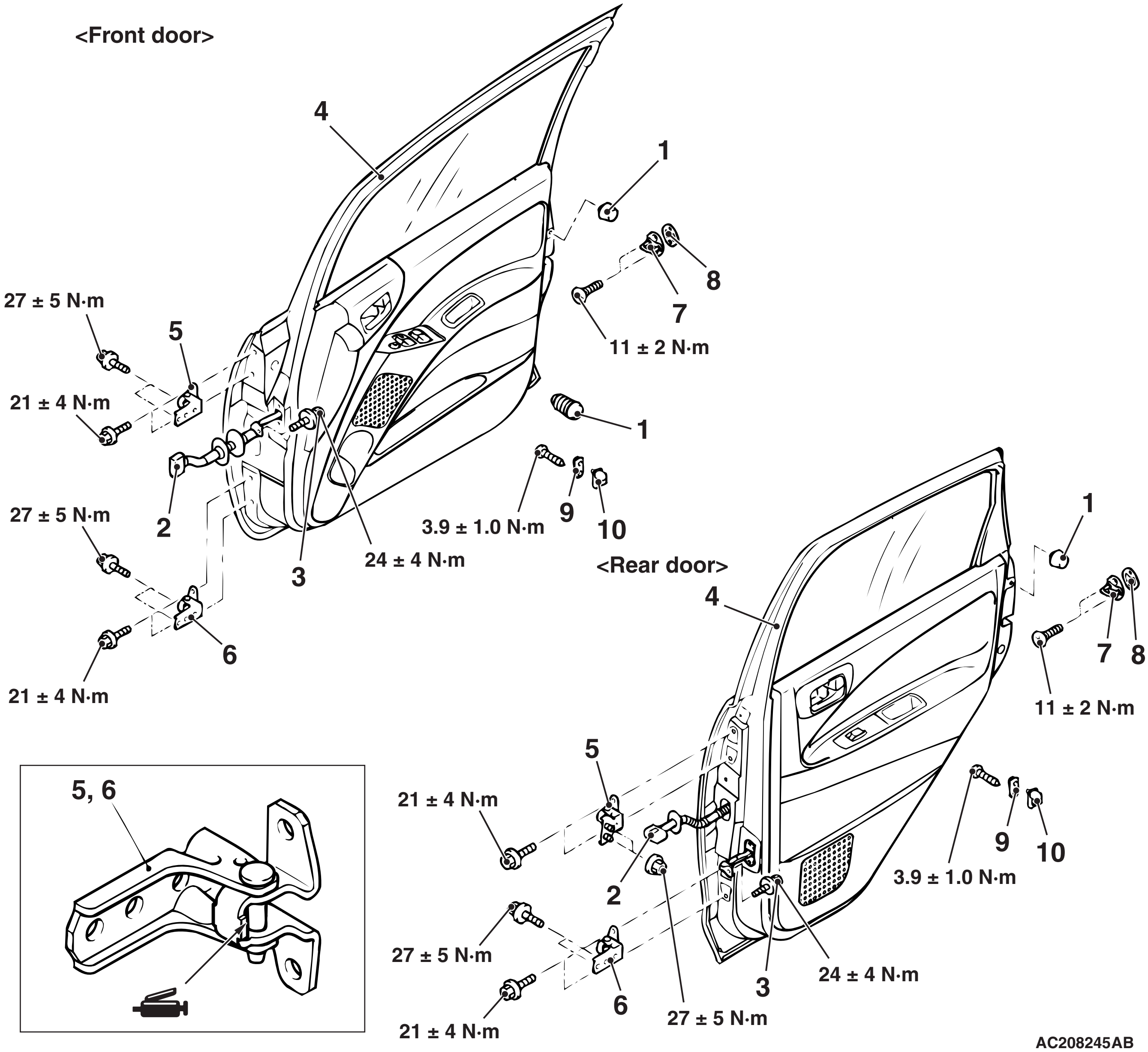
DOOR ASSEMBLY

REMOVAL AND INSTALLATION

M1423002200409

Post-installation Operation

- Door Fit Adjustment (Refer to P.42-33).
- Adjustment of Door Height (Refer to P.42-34).



Damper removal

1. Damper

Door assembly removal steps

- Scuff Plate and Cowl Side Trim <Front door> (Refer to GROUP 52A, Interior Trim P.52A-11).
- Front pillar pad <Front door> (Refer to P.42-7).

2. Wiring harness connector connection
3. Door check connecting bolt

Door assembly removal steps (Continued)

4. Door assembly

- Centre pillar trim lower (Refer to GROUP 52A, Interior Trim P.52A-11).

5. Door upper hinge
6. Door lower hinge

Striker removal

>>**A**<< 7. Striker

8. Striker shim

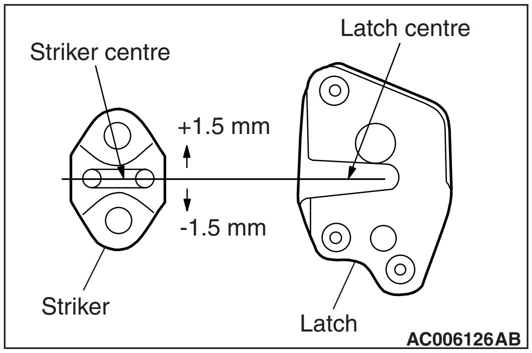
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Door switch removal steps

9. Door switch cover
10. Door switch

INSTALLATION SERVICE POINT

>>A<< STRIKER INSTALLATION

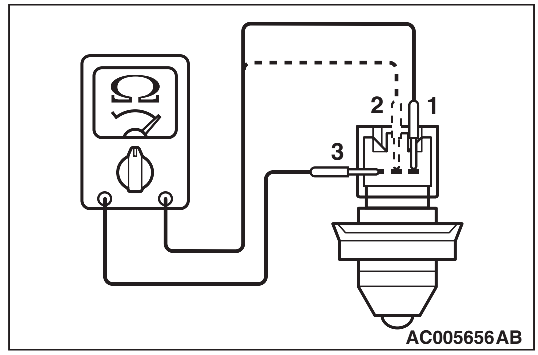


Align the centre of the striker and latch within ±1.5 mm, and install.

INSPECTION

M1423006000560

DOOR SWITCH CHECK



Switch position	Tester connection	Specified condition
Released (ON)	1 – 3, 2 – 3	Continuity (Less than 2Ω)
Depressed (OFF)		Open circuit

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Group TOC

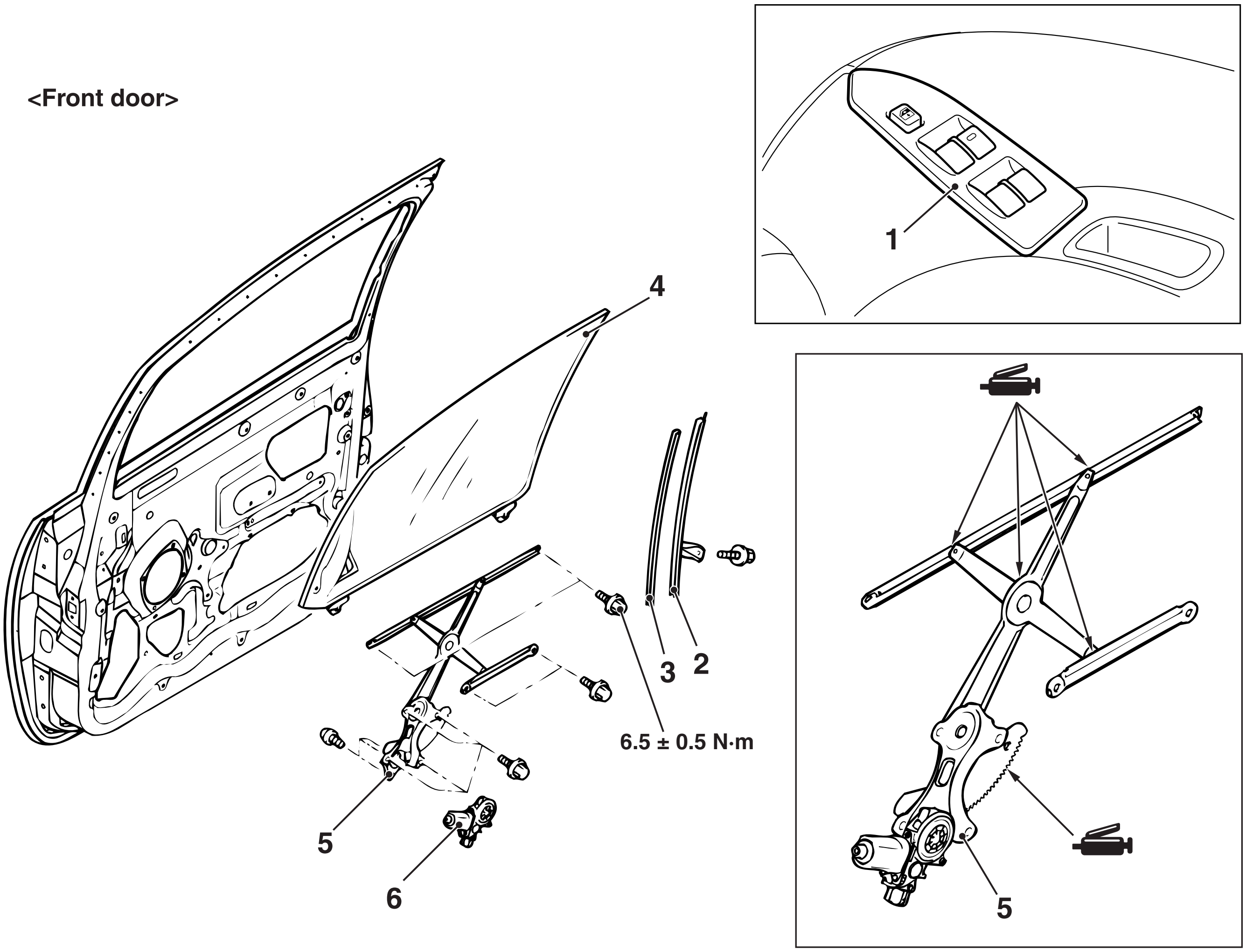
DOOR GLASS AND REGULATOR

REMOVAL AND INSTALLATION

M1429001300553

Post-installation Operation

- Door Window Glass Adjustment (Refer to P.42-34).



Power window switch removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13.)
1. Power window main switch <driver's side>, power window sub switch <passenger's side> (Refer to GROUP 52A, Door Trim P.52A-13.)

Door window glass assembly removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13.)
- Waterproof film (Refer to P.42-48.)

Door window glass assembly removal steps (Continued)

- Beltline moulding, beltline weatherstrip inner, door window glass runchannel (Refer to P.42-48.)

>>**A**<< 2. Rear lower sash
3. Window glass runchannel rear
4. Door window glass assembly

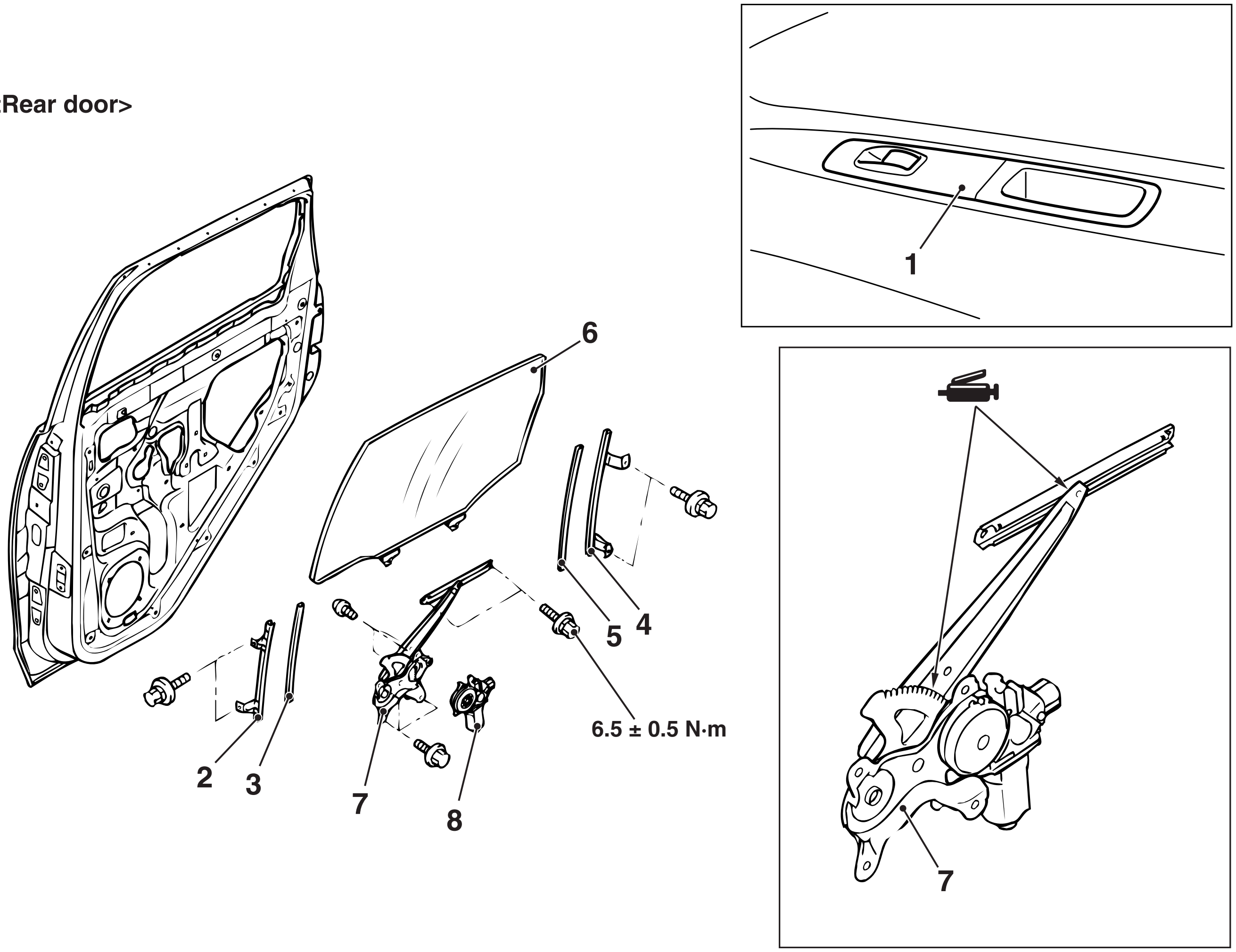
Power window regulator removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13.)
- Waterproof film (Refer to P.42-48.)

<<**A**>> 5. Power window regulator
6. Power window motor

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Group TOC

<Rear door>



Power window sub switch removal

1. Power window sub switch (Refer to GROUP 52A, Door Trim P.52A-13.)

Door window glass assembly removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13.)
- Waterproof film (Refer to P.42-48.)
- Beltline moulding, beltline weatherstrip inner, door window glass runchannel (Refer to P.42-48.)

2. Front lower sash

Door window glass assembly removal steps (Continued)

3. Window glass runchannel front
4. >>**A**<< Rear lower sash
5. Window glass runchannel rear
6. Door window glass assembly

Power window regulator removal steps

1. Power window sub switch (Refer to GROUP 52A, Door Trim P.52A-13.)

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13.)
- Waterproof film (Refer to P.42-48.)

7. <<**A**>> Power window regulator
8. Power window motor

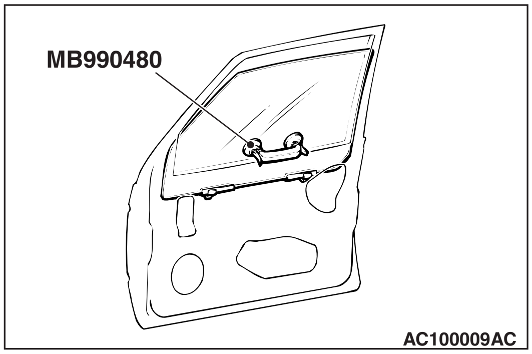
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REMOVAL SERVICE POINT

<<A>> POWER WINDOW REGULATOR REMOVAL

1. Remove the door window glass installation bolts.

⚠ CAUTION



If tinting film is adhered to the door window glass, attach special tool window glass holder (MB990480) to the outside of the glass to prevent the film from peeling off.

2. Lift the door window glass, and attach special tool window glass holder (MB990480) to the glass as shown to prevent the glass from falling.
3. Remove the window regulator.

INSTALLATION SERVICE POINTS

>>A<< LOWER SASH INSTALLATION <REAR DOOR>

Engage the rear lower sash with the window sash (door) securely.

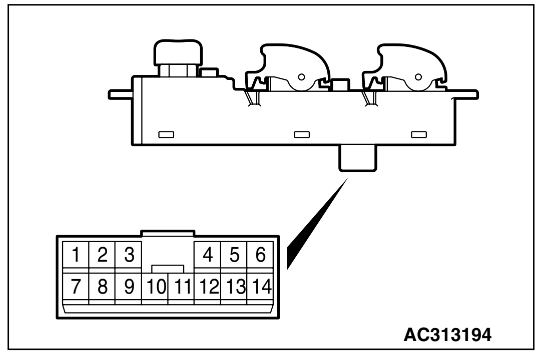
INSPECTION

M1429001400583

POWER WINDOW SWITCH CONTINUITY CHECK

Remove the power window switch (Refer to GROUP 52A, Door Trim P.52A-13).

<MAIN SWITCH>

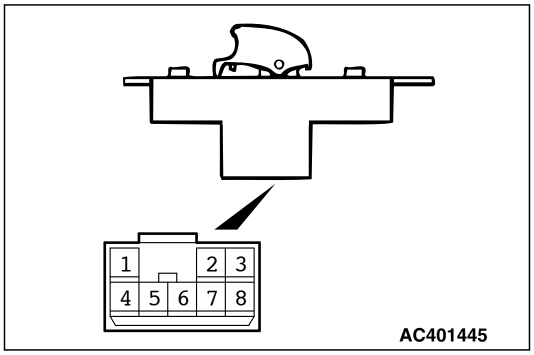


Switch position		Tester connection	Specified condition
FRONT (LH)	UP	2 – 9*, 7 – 10	Continuity (Less than 2Ω)
	OFF	2 – 7*, 2 – 9*	Continuity (Less than 2Ω)
	DOWN	2 – 7*, 9 – 10	Continuity (Less than 2Ω)
FRONT (RH)	UP	2 – 14, 10 – 12	Continuity (Less than 2Ω)
	OFF	2 – 12, 2 – 14	Continuity (Less than 2Ω)
	DOWN	2 – 12, 10 – 14	Continuity (Less than 2Ω)
REAR (LH)	UP	1 – 10, 2 – 3*	Continuity (Less than 2Ω)
	OFF	1* – 2, 2 – 3*	Continuity (Less than 2Ω)
	DOWN	1* – 2, 3 – 10	Continuity (Less than 2Ω)
REAR (RH)	UP	2 – 6*, 4 – 10	Continuity (Less than 2Ω)
	OFF	2 – 4*, 2 – 6*	Continuity (Less than 2Ω)
	DOWN	2 – 4*, 6 – 10	Continuity (Less than 2Ω)

*NOTE: *: Set the window lock switch to UNLOCK position.*

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Group TOC

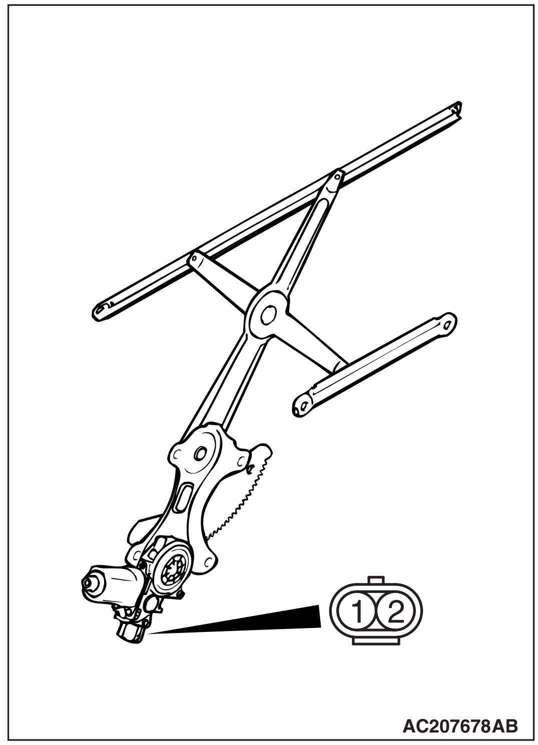
<SUB SWITCH>



Switch position	Tester connection	Specified condition
UP	4 – 5, 6 – 7	Continuity (Less than 2Ω)
OFF	4 – 5, 7 – 8	Continuity (Less than 2Ω)
DOWN	4 – 6, 7 – 8	Continuity (Less than 2Ω)

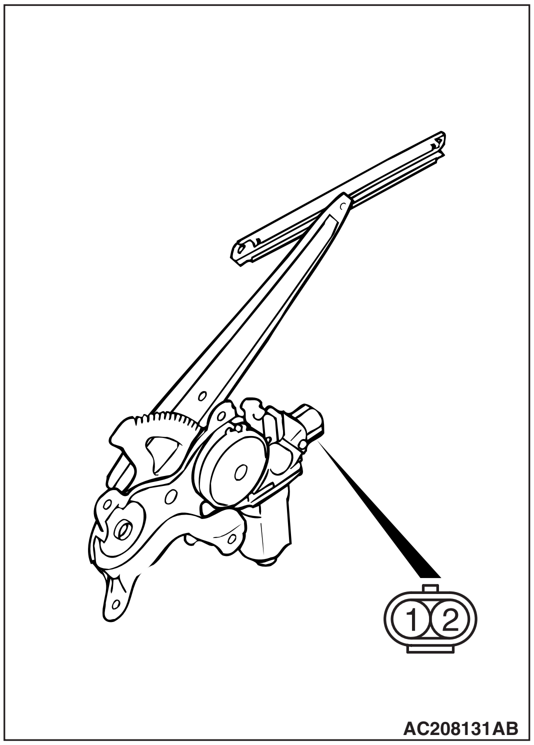
POWER WINDOW MOTOR CONTINUITY CHECK

<FRONT DOOR>



Tester connection	Slider position
• Connect terminal No. 1 and the negative battery terminal. • Connect terminal No. 2 and the positive battery terminal.	UP
• Connect terminal No. 2 and the negative battery terminal. • Connect terminal No. 1 and the positive battery terminal.	DOWN

<REAR DOOR>



Tester connection	Slider position
• Connect terminal No. 1 and the negative battery terminal. • Connect terminal No. 2 and the positive battery terminal.	UP
• Connect terminal No. 2 and the negative battery terminal. • Connect terminal No. 1 and the positive battery terminal.	DOWN

POWER WINDOW MOTOR CHECK

1. Connect a battery directly to the motor terminals and check that the motor runs smoothly.
2. Check that the motor runs in the opposite direction when the battery is connected with the polarity reversed.
3. If defect is found, replace the window regulator as an assembly.

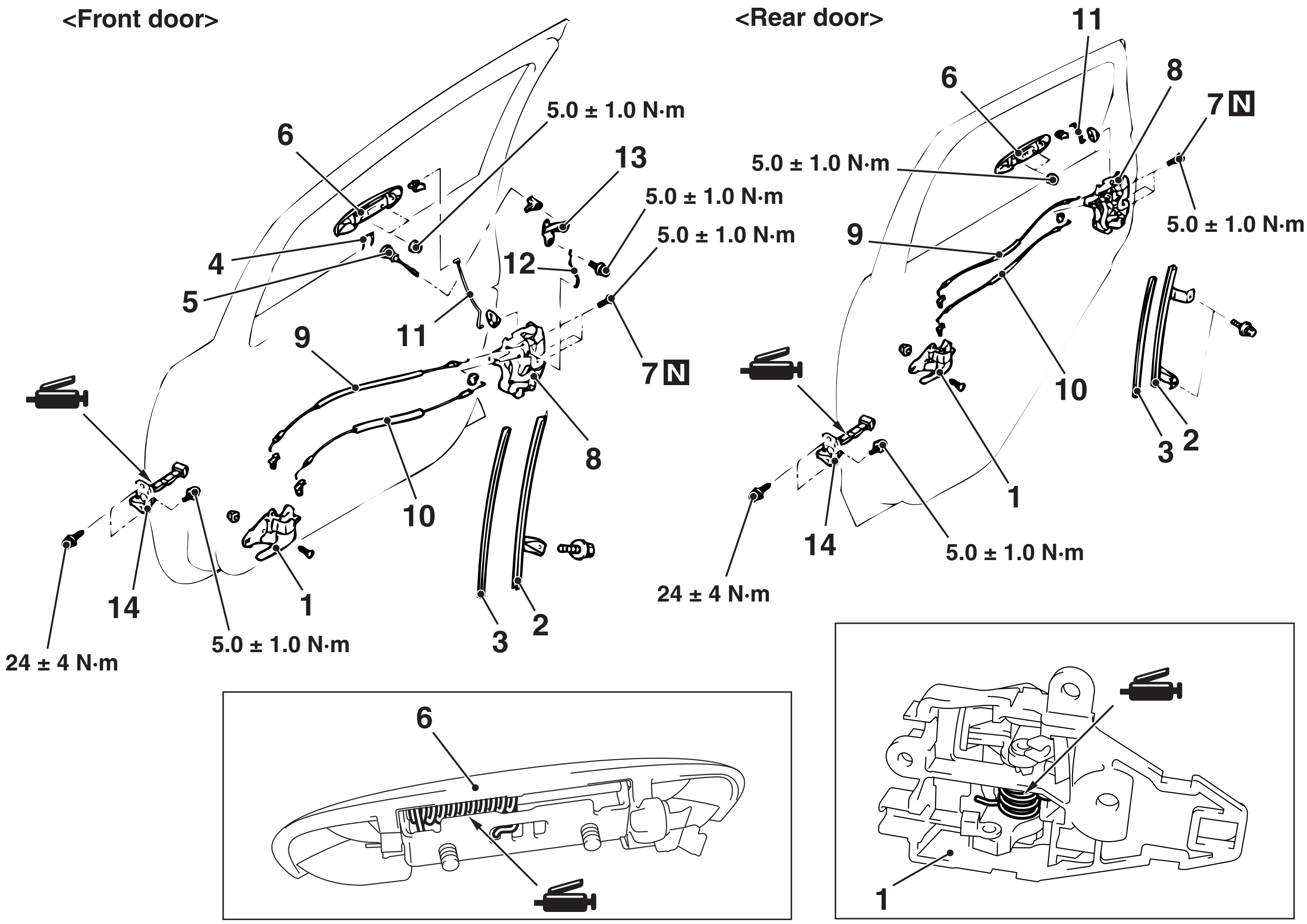
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DOOR HANDLE AND LATCH

REMOVAL AND INSTALLATION

M1423004600845

Pre-removal Operation	Post-installation Operation
• Door Trim Assembly Removal (Refer to GROUP 52A, Door Trim P.52A-13).	• Door Inside Handle Play Check (Refer to P.42-37). • Door Outside Handle Play Check (Refer to P.42-37). • Door Trim Assembly Installation (Refer to GROUP 52A, Door Trim P.52A-13).



AC208232AB

Door handle and door latch removal steps

>>**C**<< 1. Door inside handle
- Waterproof film (Refer to P.42-48).

>>**B**<< 2. Rear lower sash
3. Window glass runchannel rear
4. Retainer
5. Key cylinder <Drive's side only>
6. Door outside handle
- Door window glass assembly (Refer to P.42-40).

7. Screw

Door handle and door latch removal steps (Continued)

8. Door latch assembly
9. Inside lock cable
10. Inside handle cable
11. Outside handle rod
12. Front door outside lock rod
13. Front door panel bracket

Door check removal steps

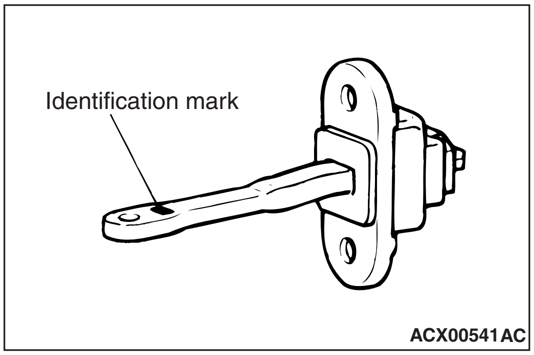
- Waterproof film (Refer to P.42-48).

>>**A**<< 14. Door check

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Group TOC

INSTALLATION SERVICE POINT

>>A<< DOOR CHECK INSTALLATION



Install the door check with the following identification marks facing upward.

Application locations		Identification mark
Front door	Left side	21L
	Right side	21R
Rear door	Left side	45L
	Right side	45R

>>B<< REAR LOWER SASH INSTALLATION

Engage the rear lower sash into the window rear sash(door) securely.

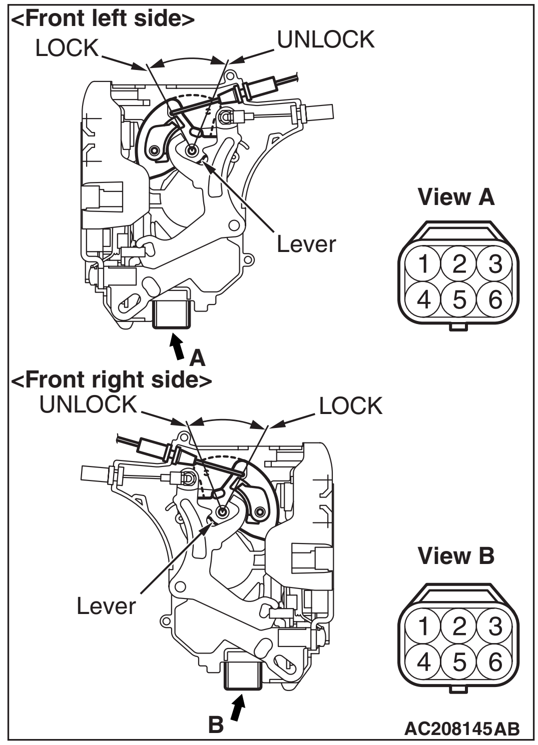
>>C<< DOOR INSIDE HANDLE INSTALLATION

When connecting the inside cable to the door inside handle, ensure that the door latch and the inside handle are unlocked.

INSPECTION

M1423004700853

FRONT DOOR LOCK ACTUATOR CHECK



ACTUATOR OPERATION CHECK

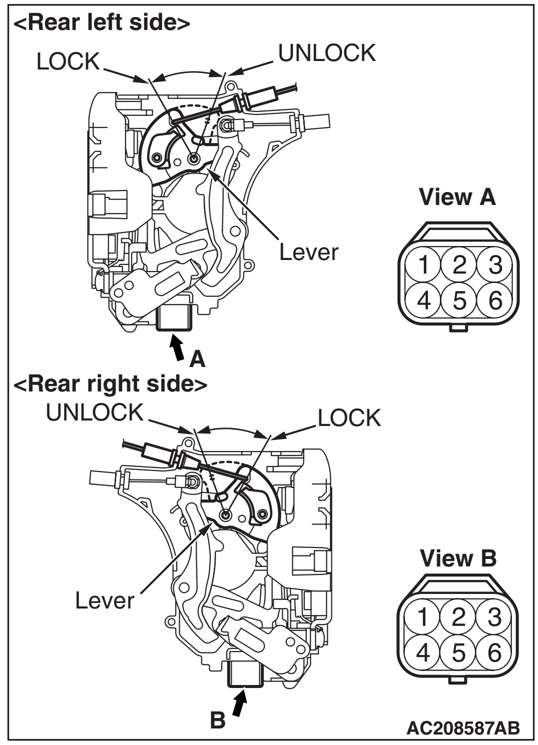
Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.4 and the negative battery terminal. • Connect terminal No.6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No.6 and the negative battery terminal. • Connect terminal No.4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

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ACTUATOR SWITCH CHECK <DRIVER'S SIDE>

Lever position	Tester connection	Specified condition
At the "LOCK" position	2 – 3	Continuity (Less than 2Ω)
At the "UNLOCK" position	1 – 3	Continuity (Less than 2Ω)

REAR DOOR LOCK ACTUATOR CHECK



ACTUATOR OPERATION CHECK

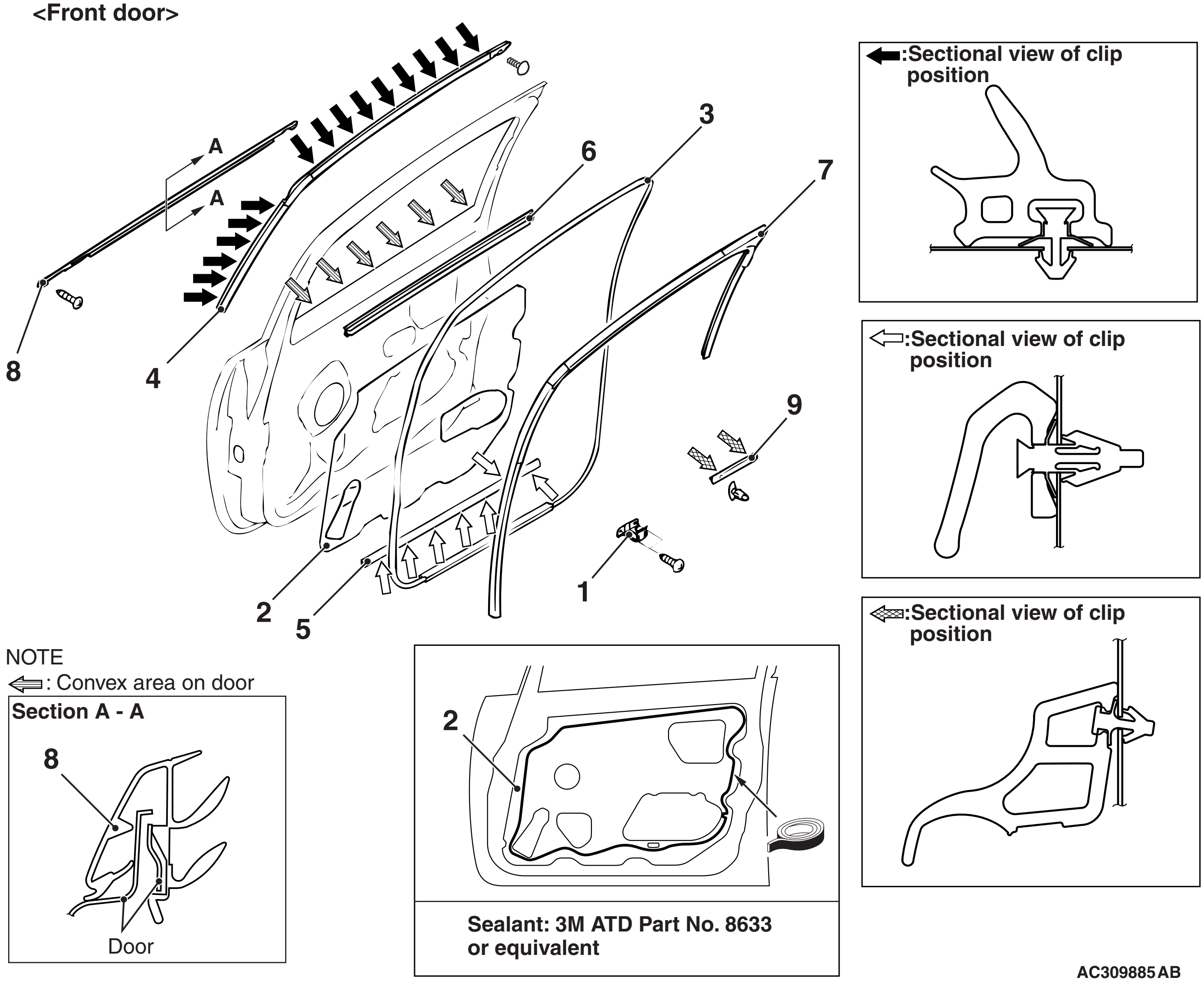
Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.4 and the negative battery terminal. • Connect terminal No.6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No.6 and the negative battery terminal. • Connect terminal No.4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP

REMOVAL AND INSTALLATION

M1423003100557

<Front door>



AC309885AB

Waterproof film removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).

1. Pull handle bracket

- Speaker (Refer to GROUP 54A, Speaker P.54A-120).

>>**B**<< 2. Waterproof film

Door opening weatherstrip inner removal steps

- Cowl side trim and scuff plate (Refer to GROUP 52A, Interior Trim P.52A-11).

3. Door opening weatherstrip inner

Door opening weatherstrip outer removal

<<**A**>> 4. Door opening weatherstrip outer

Door opening weatherstrip lower removal steps

<<**A**>> 5. Door opening weatherstrip lower

Door beltline weatherstrip inner removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).

6. Door beltline weatherstrip inner

Door window glass runchannel removal

7. Door window glass runchannel

Door beltline moulding removal steps

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).

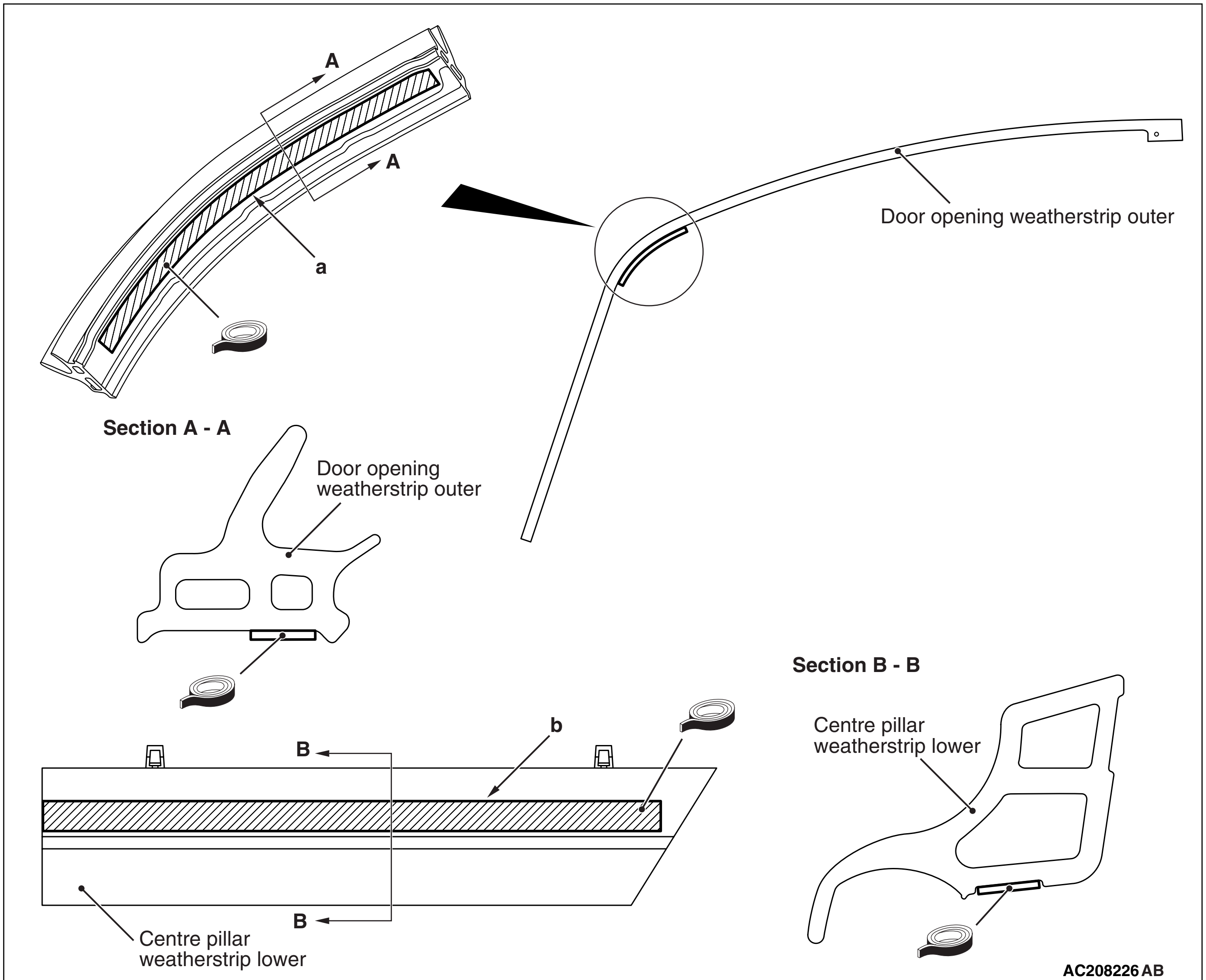
>>**B**<< 2. Waterproof film
8. Door beltline moulding

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Centre pillar weatherstrip lower removal

<<**A**>> 9. Centre pillar Weather pillar strip lower

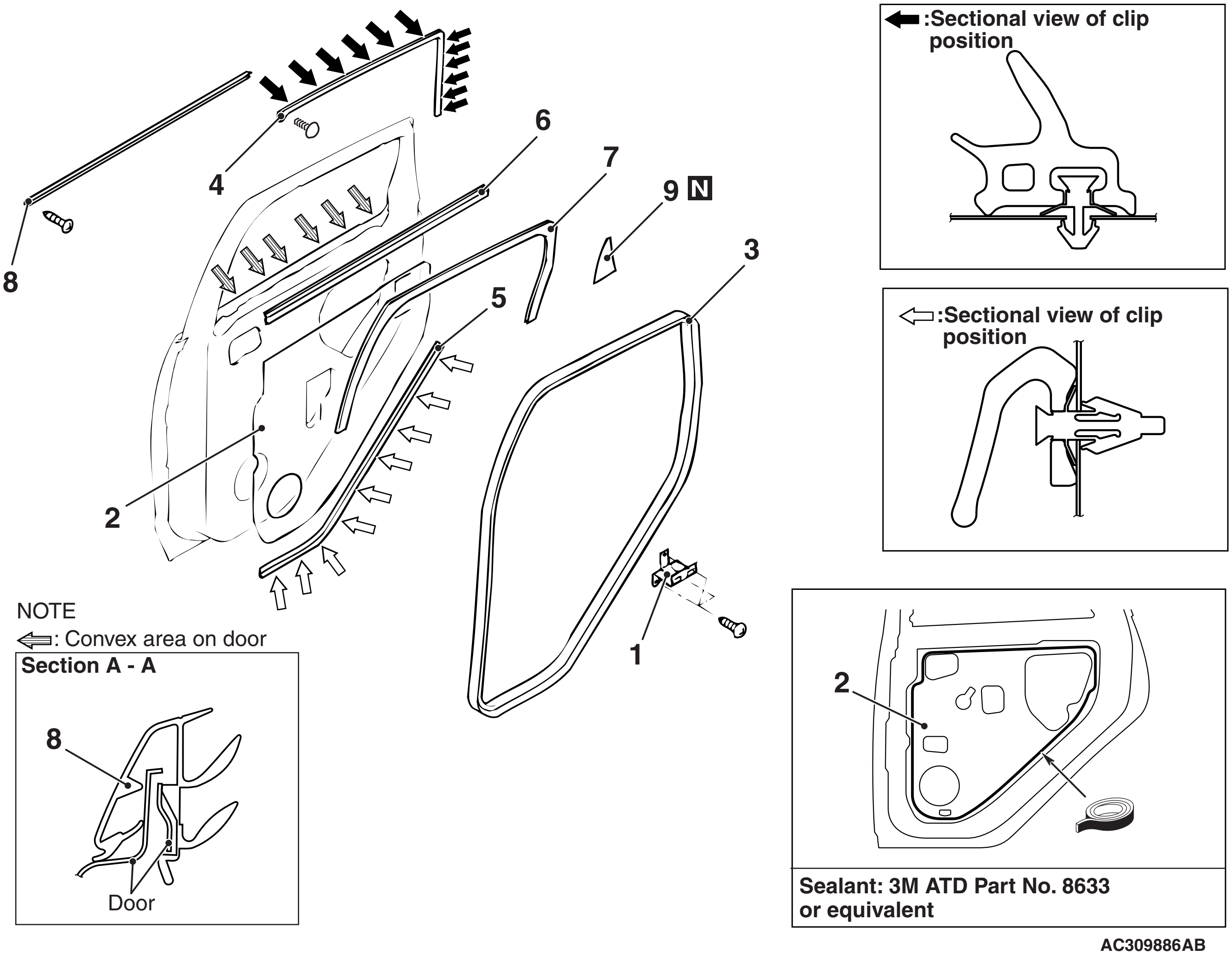
Double-sided tape application location



Adhesive tape: Double-sided tape 5 mm width, 45 mm length and 0.5 mm thickness

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Group TOC

<Rear door>



Waterproof film removal steps

- • Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).
- 1. Pull handle bracket
- • Speaker (Refer to GROUP 54A, Speaker P.54A-120).
- >>**B**<< 2. Waterproof film

Door opening weatherstrip inner removal steps

- • Scuff plate (Refer to GROUP 52A, Interior Trim P.52A-11).
- 3. Door opening weatherstrip inner

Door opening weatherstrip outer removal

- <<**A**>> 4. Door opening weatherstrip outer

Door opening weatherstrip lower removal

- <<**A**>> 5. Door opening weatherstrip lower

Door beltline weatherstrip inner removal steps

- • Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).
- 6. Door beltline weatherstrip inner

Door window glass runchannel removal

- 7. Door window glass runchannel

Door beltline moulding removal steps

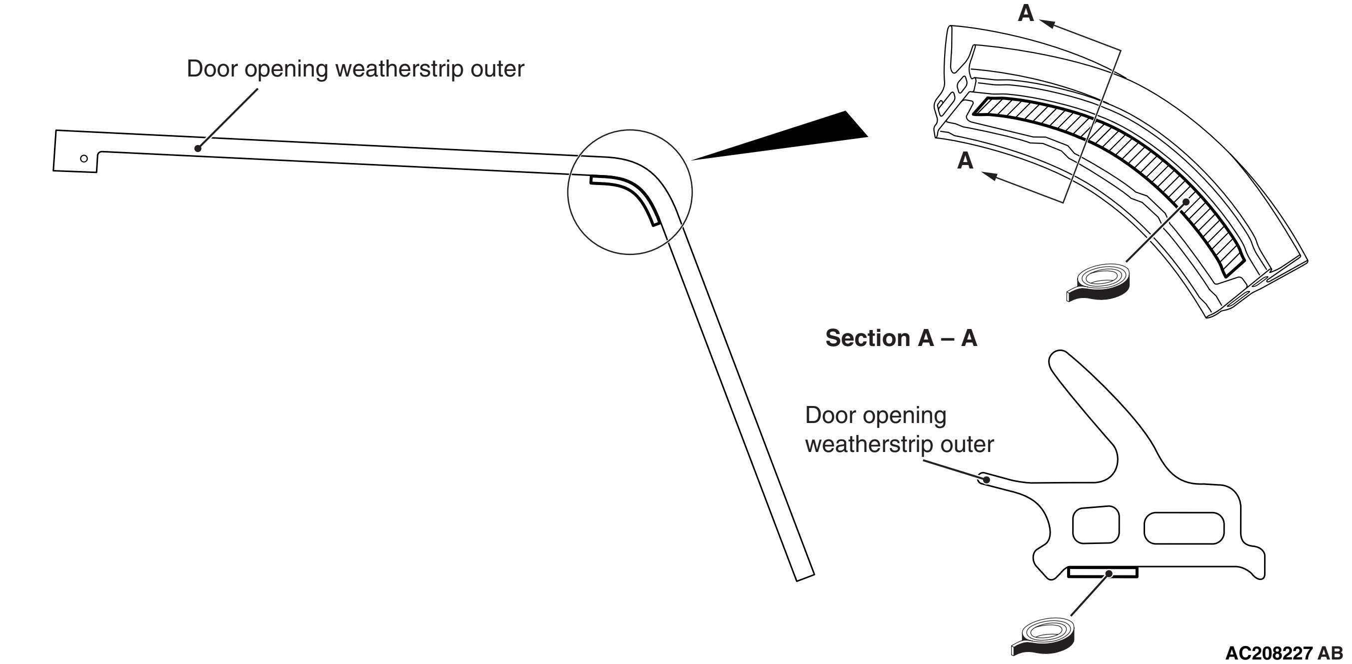
- • Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).
- >>**B**<< 2. Waterproof film
- 8. Door beltline moulding

Door tape removal steps

- • Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-13).
- >>**A**<< 9. Door tape

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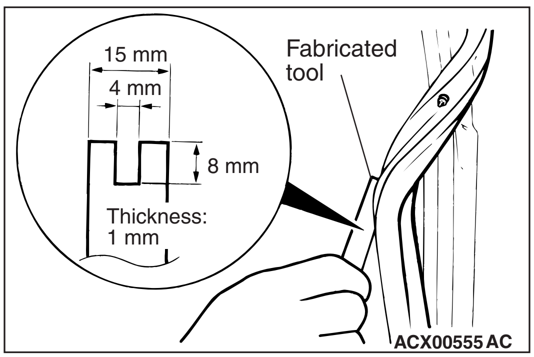
Double-sided tape application location



Adhesive tape: Double-sided tape 5 mm width, 45 mm length and 0.5 mm thickness

REMOVAL SERVICE POINTS

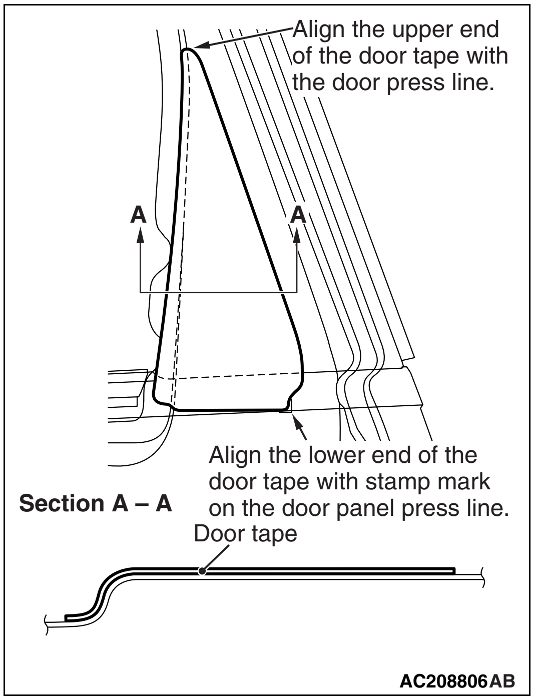
<<A>> CENTRE PILLAR WEATHERSTRIP LOWER/DOOR OPENING WEATHER-STRIP OUTER LOWER/DOOR OPENING WEATHERSTRIP OUTER REMOVAL



Make a fabricated tool as shown in the illustration to remove the door opening weatherstrip outer.

INSTALLATION SERVICE POINTS

>>A<< DOOR TAPE INSTALLATION

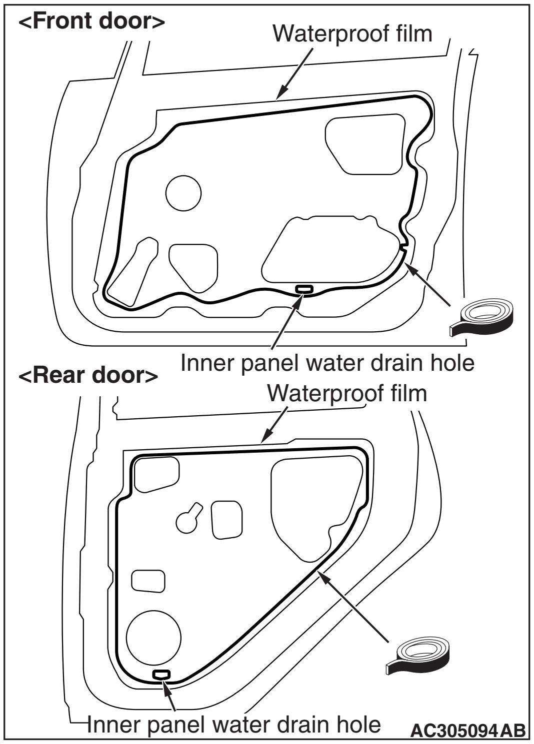


Apply the door tape as shown.

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>>B<< WATERPROOF FILM INSTALLATION

⚠ CAUTION



When sticking the waterproof film, ensure that the sealant is applied under the inner panel water drain hole.

Apply the specified adhesive to the waterproof film as shown and stick the film.

Specified sealant: 3M ATD Part No.8633 or equivalent

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TAILGATE

SERVICE SPECIFICATIONS

M1421000300415

Item	Standard value
Tailgate handle play mm	2.5 ± 1.5

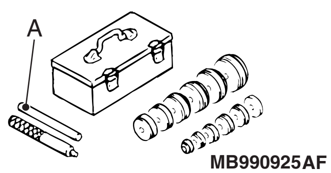
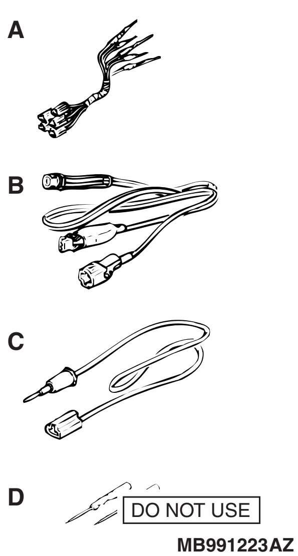
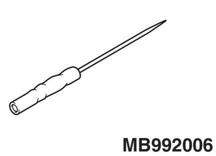
SEALANTS

M1424000500151

Item	Specified sealant
Tailgate hinge	3M ATD Part No.8531 Heavy drip check sealer, 3M ATD Part No.8646 Automotive joint and seam sealer or equivalent

SPECIAL TOOLS

M1424000600329

Tool	Number	Name	Use
	MB990925 A: MB990939	Bearing and oil seal installer set A: Remover bar	Tailgate striker adjustment
	MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222	Harness set A: Test harness B: LED harness C: LED harness adapter D: Probe	Terminal voltage measurement A: For checking connector pin contact pressure B: For checking power supply circuit C: For checking power supply circuit D: For connecting a locally sourced tester
	MB992006	Extra fine probe	Continuity check and voltage measurement at harness wire or connector

TROUBLESHOOTING

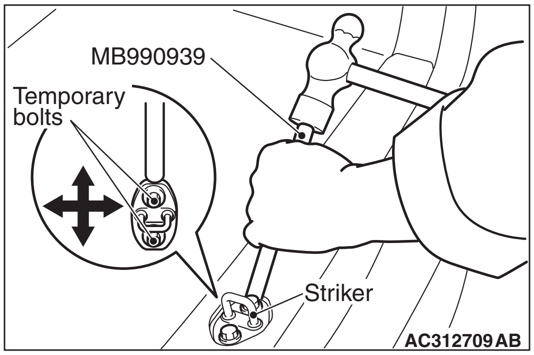
M1424000700274

The tailgate system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-35, or refer to GROUP 54C, Troubleshooting P.54C-29.

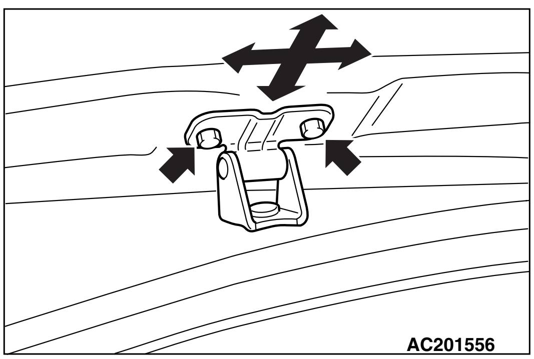
ON-VEHICLE SERVICE

TAILGATE FIT ADJUSTMENT

M1424000900234



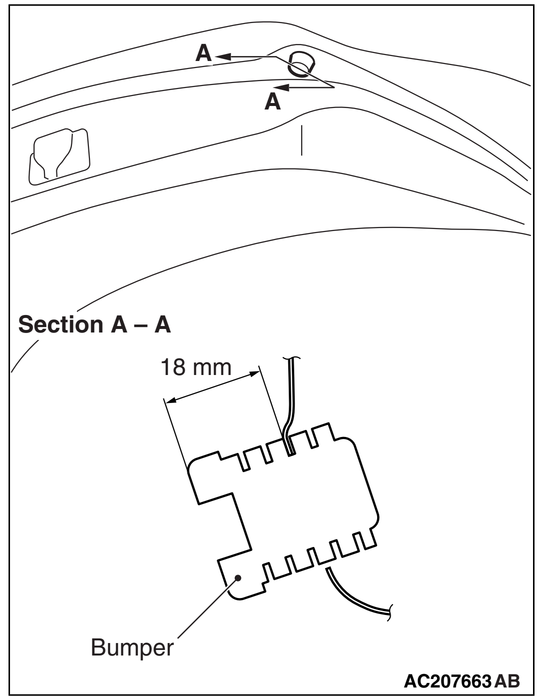
If the striker is not engaged with the latch properly, install an temporary bolts instead of the striker mounting bolt, and use the special tool Remover bar (MB990939) and a hammer to tap the bolt to the desired direction.



If the clearance between the tailgate and the body is uneven, loosen the tailgate-side tailgate hinge mounting bolts to adjust it.

ADJUSTMENT OF TAILGATE HEIGHT

M1424003500150

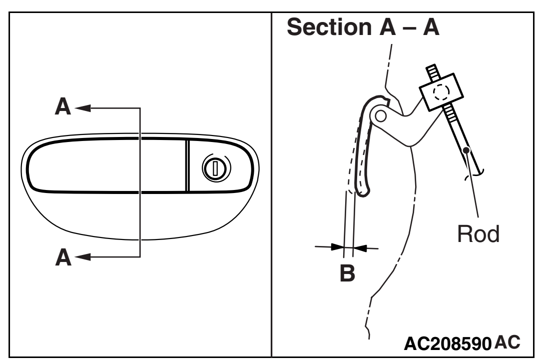


Rotate the bumper by using arrow mark on the bumper as a guide to adjust the tailgate height. The bumper height is altered by roughly 3 mm when the bumper is rotated once.

NOTE: If a rattling noise is heard due to the vibration of the tailgate when the vehicle is being driven, adjust the bumper height until the bumper is seated on the vehicle body.

TAILGATE HANDLE PLAY CHECK

M1424002400213



1. Check the tailgate handle play.

   Standard value (B): 2.5 ± 1.5 mm

2. If it deviates from the standard value, remove the tailgate trim (Refer to GROUP 52A, Tailgate Trim P.52A-15).
3. Remove the tailgate outside handle holder. Then adjust the play by changing the connecting point between the tailgate latch rod and the tailgate outside handle.

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TAILGATE

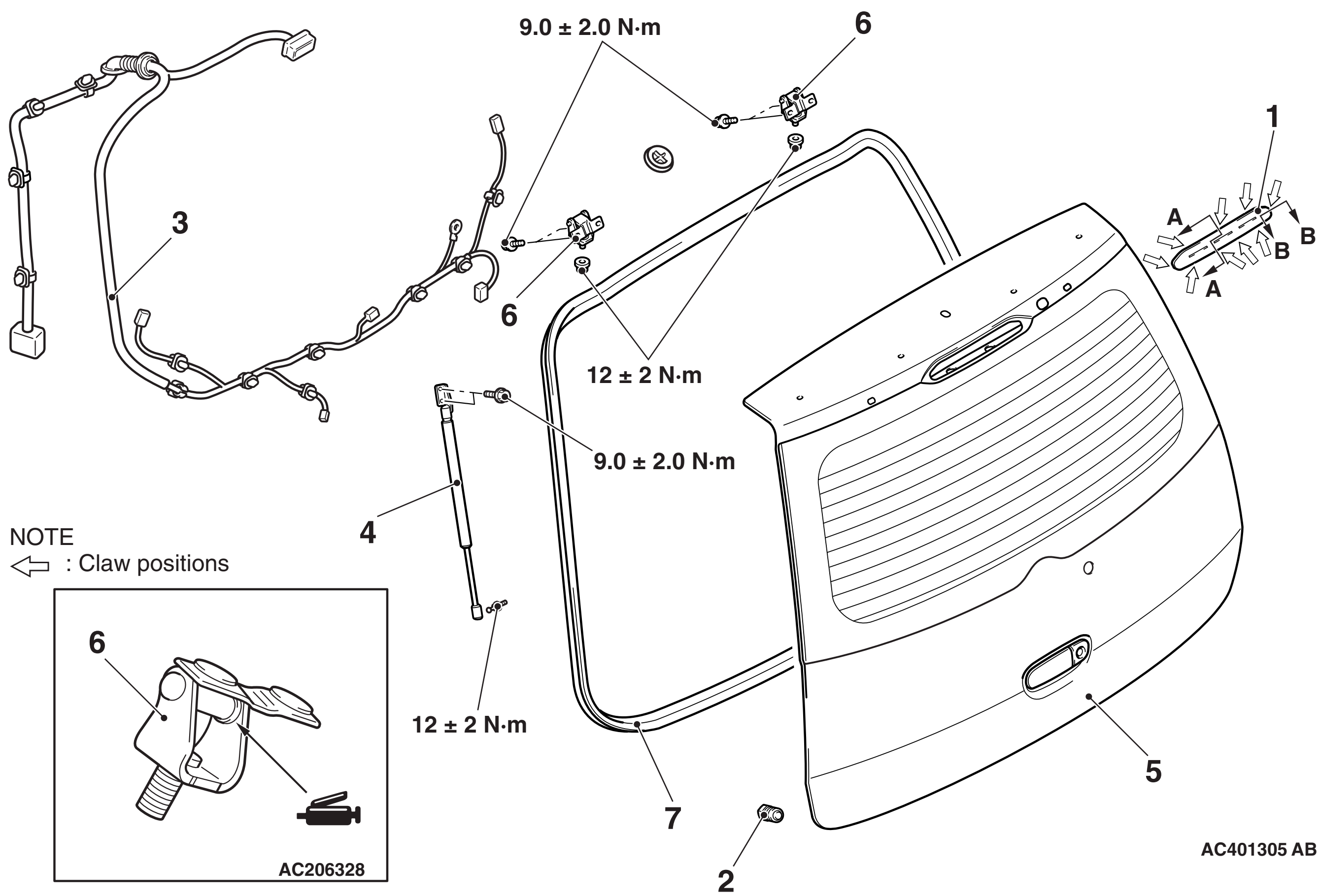
REMOVAL AND INSTALLATION

M1424001100338

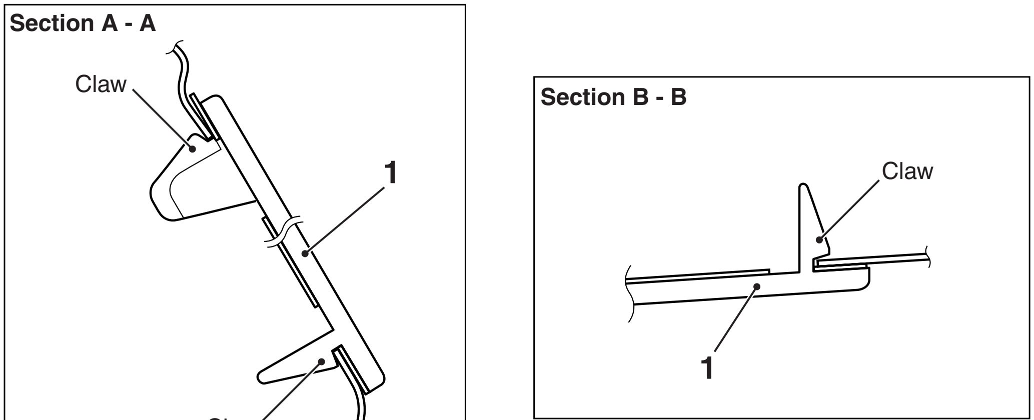
⚠ CAUTION

- **Do not disassemble or throw the tailgate gas spring into fire.**
- **Punch a hole in the gas spring before disposal to release the gas inside.**
- **Ensure the tailgate gas spring piston rod does not come into contact with foreign material.**

Pre-removal Operation	Post-installation Operation
• Tailgate Spoiler Assembly Removal <Vehicles with Tailgate spoiler> (Refer to GROUP 51, Tailgate Spoiler P.51-27). • High-mounted Stop Lamp Assembly Removal <Except vehicles with tailgate spoiler> (Refer to GROUP 54A, High-mounted Stop Lamp P.54A-83). • Tailgate Trim Assembly Removal (Refer to GROUP 52A, Tailgate Trim P.52A-15). • Rear Wiper Motor and Rear Washer Hose Removal (Refer to GROUP 51, Rear Wiper and Washer P.51-37).	• Tailgate Fit Adjustment (Refer to P.42-54). • Adjustment of Tailgate Height (Refer to P.42-54). • Rear Wiper Motor and Rear Washer Hose Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-37). • Tailgate Trim Assembly Installation (Refer to GROUP 52A, Tailgate Trim P.52A-15). • High-mounted Stop Lamp Assembly Installation <Except vehicles with tailgate spoiler> (Refer to GROUP 54A, High-mounted Stop Lamp P.54A-83). • Tailgate Spoiler Assembly Installation <Vehicles with tailgate spoiler> (Refer to GROUP 51, Tailgate Spoiler P.51-27).



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Group TOC



AC208591AB

Tailgate assembly removal steps

- <<**A**>> >>**C**<< 1. Hi-mounted stop lamp blind cover <Vehicles with tailgate spoiler>
- 2. Damper
- 3. Wiring harness
- <<**B**>> 4. Tailgate gas spring
- 5. Tailgate assembly

Tailgate assembly removal steps

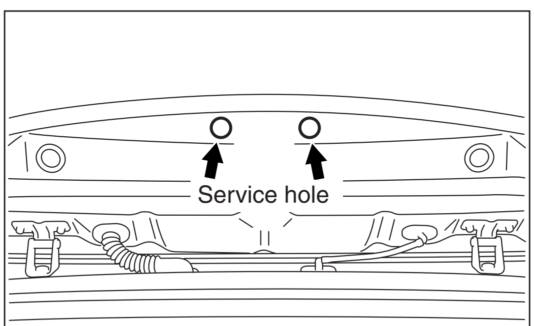
- • Headlining assembly (Refer to GROUP 52A, Headlining P.52A-16.)
- >>**B**<< 6. Tailgate hinge

Tailgate opening weatherstrip removal steps

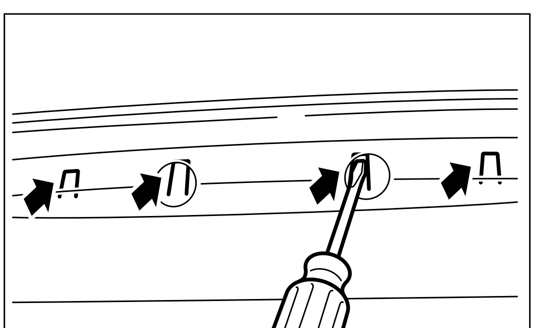
- <<**B**>> 4. Tailgate gas spring
- >>**A**<< 7. Tailgate opening weatherstrip

REMOVAL SERVICE POINT

<<A>> HI-MOUNTED STOP LAMP BLIND COVER REMOVAL



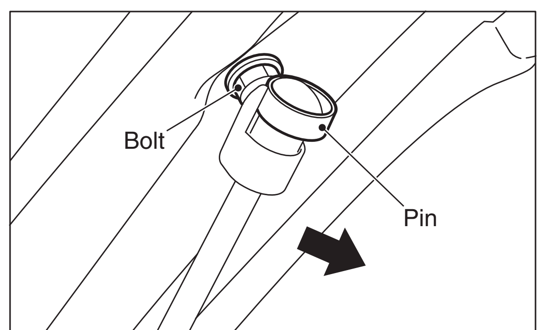
AC208975AB



AC209034

Insert a flat-tipped screwdriver through the service hole as shown to disengage the claw to remove the high-mounted stop lamp blind cover.

<<B>>TAILGATE GAS SPRING REMOVAL



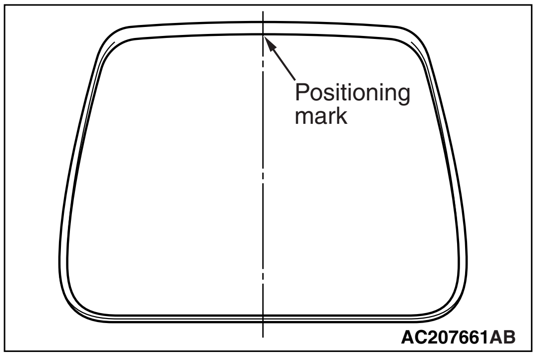
AC103607AC

As shown in the Figure, slide the pin upward, then remove the tailgate gas spring in the direction of the arrow to unscrew the bolt.

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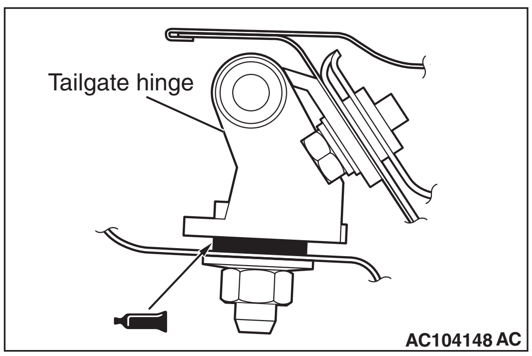
INSTALLATION SERVICE POINTS

>>A<< TAILGATE OPENING WEATHER-STRIP INSTALLATION



Assemble so the tailgate opening weatherstrip marking is at the centre of the body.

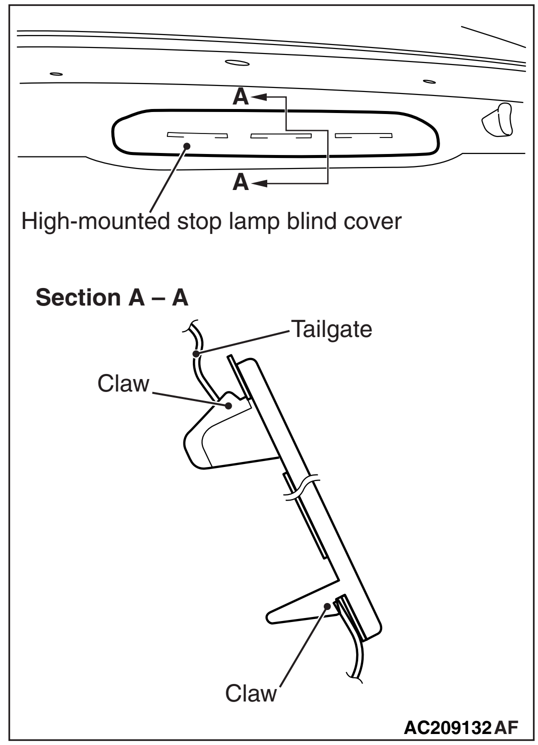
>>B<< TAILGATE HINGE INSTALLATION



Apply the specified sealing agent to the tailgate hinge assembly surface to assembly the tailgate hinge.

Specified Sealant: 3M ATD Part No.8531 Heavy drip check sealer, 3M ATD Part No.8646 Automotive joint and seam sealer or equivalent

>>C<< HI-MOUNTED STOP LAMP BLIND COVER INSTALLATION



First engage the lower end of the high-mounted stop lamp blind cover, and then engage the upper end.

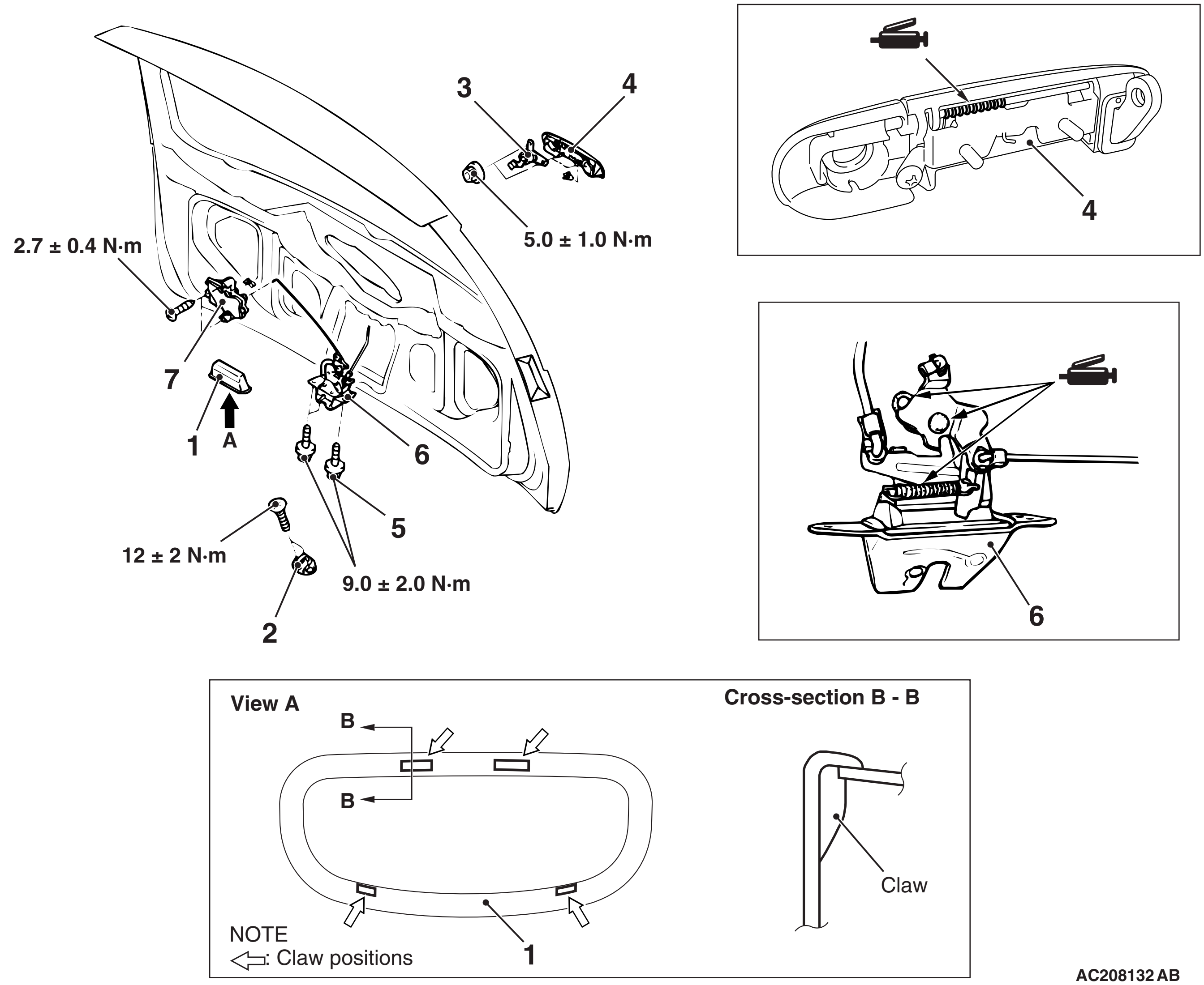
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TAILGATE HANDLE AND LATCH

REMOVAL AND INSTALLATION

M1424001700352

Post-installation Operation
- Tailgate Handle Play Check (Refer to P.42-54).



Pull handle removal

1. Pull handle

Striker removal

\>>A<< 2. Striker

Tailgate outside handle removal steps

- Tailgate trim (Refer to GROUP 52A, Tailgate Trim P.52A-15).

3. Tailgate key cylinder
4. Tailgate outside handle

Tailgate latch assembly removal steps

- Tailgate trim (Refer to GROUP 52A, Tailgate Trim P.52A-15).

5. Earth bolt
6. Tailgate latch assembly

Tailgate lock actuator removal steps

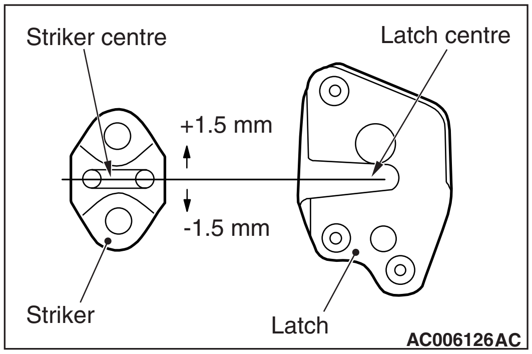
- Tailgate trim (Refer to GROUP 52A, Tailgate Trim P.52A-15).

7. Tailgate lock actuator

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INSTALLATION SERVICE POINT

>>A<< STRIKER INSTALLATION

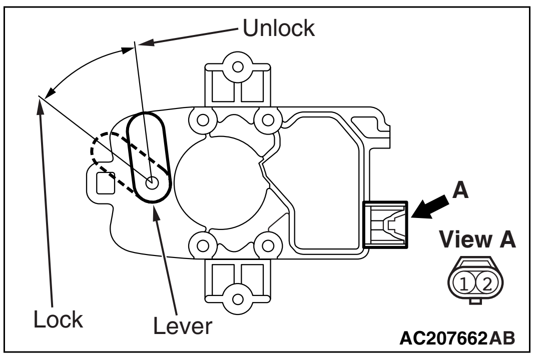


Assemble so the distance between the centre of the striker and centre of the latch is ±1.5mm or less.

INSPECTION

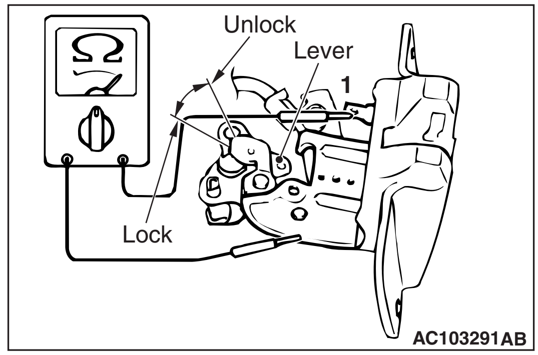
M1424002100212

TAILGATE LOCK ACTUATOR CHECK



Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No.1 and the negative battery terminal. • Connect terminal No.2 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No.2 and the negative battery terminal. • Connect terminal No.1 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

TAILGATE LATCH CHECK



Lever position	Tester connection	Specified condition
At the "LOCK" position	1 – Earth	Open circuit
At the "UNLOCK" position		Continuity (Less than 2Ω)

KEYLESS ENTRY SYSTEM

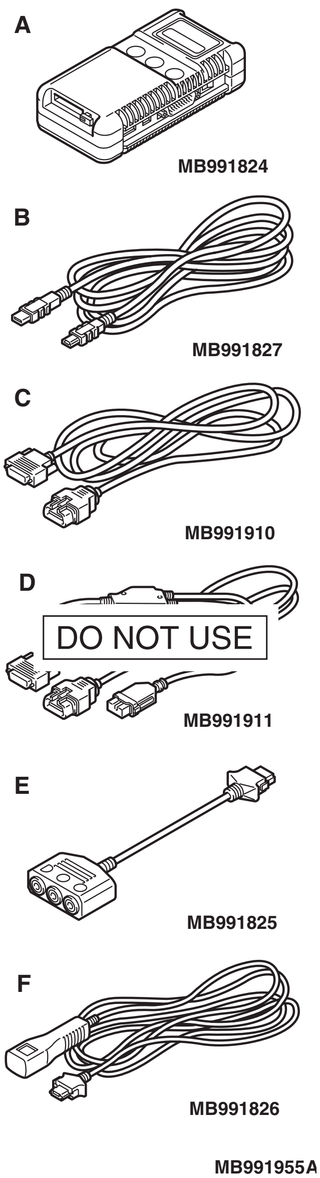
SERVICE SPECIFICATIONS

M1428000300126

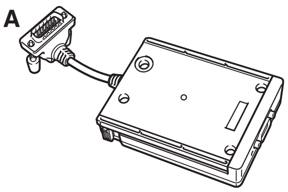
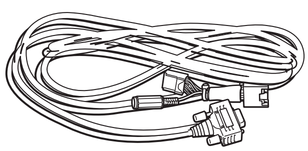
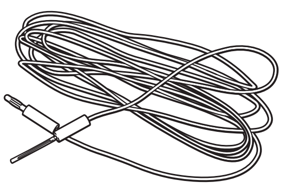
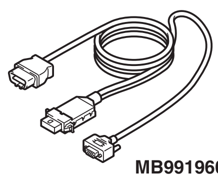
Item	Standard value
Voltage of transmitter battery V	2.5 – 3.2

SPECIAL TOOLS

M1428000600558

Tool	Number	Name	Use
	MB991955 A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991825 F: MB991826	M.U.T.-III sub-assembly A: Vehicle communication interface (V.C.I.) B: M.U.T.-III USB cable C: M.U.T.-III main harness A (Vehicles with CAN communication system) D: M.U.T.-III main harness B (Vehicles without CAN communication system) E: M.U.T.-III measurement adapter F: M.U.T.-III trigger harness	Encrypted code registration ⚠ CAUTION **For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.**

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Tool	Number	Name	Use
A  B  C  B991813	MB991813 A: MB991806 B: MB991812 C: MB991822	SWS monitor kit A: SWS monitor cartridge B: SWS monitor harness (for column-ECU) C: Probe harness	Encrypted code registration
 MB991960	MB991960	Intermediate wiring harness for SWS customisation	Encrypted code registration

TROUBLESHOOTING

M1428000700436

The keyless entry system is controlled by the Smart Wiring System (SWS). For troubleshooting, refer to GROUP 54B, Troubleshooting P.54B-35 or GROUP 54C, Troubleshooting P.54C-29.

ON-VEHICLE SERVICE

KEYLESS ENTRY SYSTEM INSPECTION

M1428001400193

Check the system as described below. If the system does not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-35 or GROUP 54C, Troubleshooting P.54C-29.

- Operate the transmitter to check that the doors and tailgate can be locked and unlocked.
- Operate the transmitter to check that the answer-back function works in response to door and tail-gate locking/unlocking. Refer to GROUP 54C, Customise Function P.54C-240.

NOTE:

- *The adjustment function allows you to change the answerback setting as follows. Prior to that check, confirm which setting is activated.*
    - *"Lock / unlock yes (the initial setting)"*
    - *"Lock only yes"*
    - *"Unlock only yes"*
    - *"None"*
- *The adjustment function allows you to change the hazard answerback setting as follows. Prior to that check, confirm which setting is activated.*
    - *"Hazard warning lamp: Flash once when doors and tailgate are locked, and twice when unlocked (initial setting)"*
    - *"Hazard warning lamp: Flash twice when doors and tailgate are locked, and once when unlocked (initial setting)"*

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MULTI-MODE KEYLESS ENTRY FUNCTION INSPECTION

M1428004100083

Operate the transmitter to check that the electric-folding door mirrors work. If they do not work, carry out troubleshooting. Refer to GROUP 54B, Troubleshooting P.54B-35 or GROUP 54C, Troubleshooting P.54C-29.

KEYLESS ENTRY SYSTEM TIMER LOCK FUNCTION INSPECTION

M1428004000246

Attempt to unlock the doors and the tailgate by using the transmitter. If the doors and the tailgate are not locked within 30 seconds, carry out troubleshooting. Note that the doors and the tailgate will not be locked if the ignition key is inserted within the 30-second period, or one of the doors or the tailgate is opened. Refer to GROUP 54B, Troubleshooting P.54B-35 or GROUP 54C, Troubleshooting P.54C-29.

NOTE: The customisation function allows you to change the keyless entry system timer lock period from 30 seconds (default setting) to 60, 120 or 180 seconds. Prior to the check, confirm which setting is activated. Refer to GROUP 54C, Customise Function P.54C-240.

HOW TO REGISTER SECRET CODE

M1428001000560

Each individual secret code is registered inside the transmitter, and so it is necessary to resister these codes with the EEPROM inside the receiver in the following cases.

- When the transmitter or ETACS-ECU is replaced
- If more transmitters are to be used
- If it appears that a problem is occurring because of faulty registration of a code.

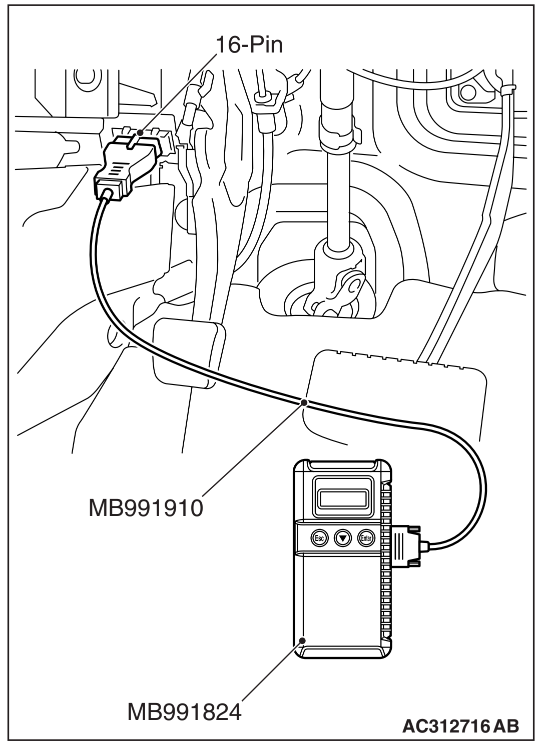
A maximum of four different codes can be stored in the EEPROM memory (four different transmitters can be used). When the code for the first transmitter is registered, the previously registered codes for all transmitters are cleared. Therefore, if you are using four transmitters or are adding more transmitters, the codes for all transmitters must be registered at the same time.

WHEN THE SPECIAL TOOL V.C.I. (MB991824) IS USED

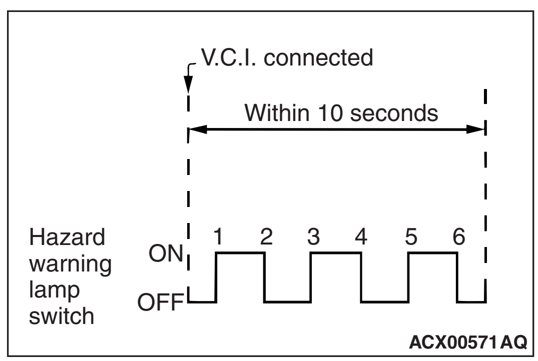
1. Check that the doors lock normally when the key is used.
2. Insert the ignition key.

⚠ CAUTION

Before connecting or disconnecting the V.C.I., turn the ignition switch to the "LOCK" (OFF) position.



3. Connect the V.C.I. to the diagnosis connector.



4. Press the hazard warning lamp switch six times within 10 seconds.

   NOTE: Once the process is completed six times, then it will operate with all doors and tailgate lock and unlock operations once and then go to the save mode.

   NOTE: The hazard warning lamp switch is turned on and off alternately whenever it is pushed.

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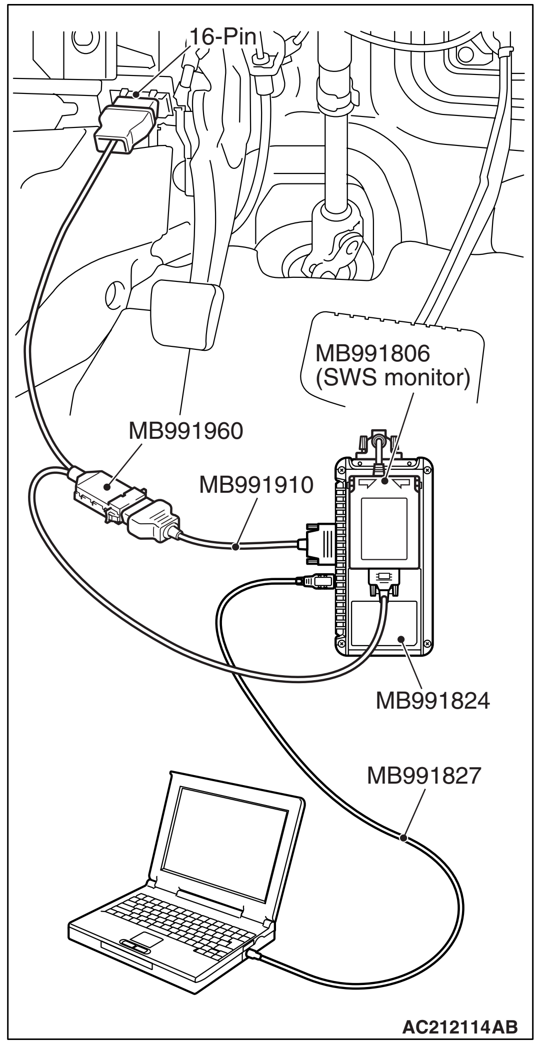
5. Press the transmitter switch, and then press it two times within 10 seconds of the first press. This will register the code.
6. Once the program is saved, it will operate once with the all doors and tailgate lock and unlock operations.
7. If you are using two or more transmitters or have added a second transmitter, the next transmitter should be registered within one minute after registering the code for the previous transmitter. The registration procedure is common for all the transmitter.
8. Registration mode will be cancelled under the following conditions:
   - When the secret code for four transmitters has been registered;
   - When passing one minute after finishing the registration of all transmitters;
   - When the V.C.I. is disconnected from the diagnosis connector;
   - When the key is removed from the key cylinder;
9. After the registration is completed, remove the ignition key and close all the doors, and then check that the keyless entry system operates normally.

WHEN THE M.U.T.-III AND SWS MONITOR IS USED

1. Check that the doors lock normally when the ignition key is inserted into the door key cylinder and turned.
2. Insert the ignition key in the ignition switch.

⚠ CAUTION

Before connecting or disconnecting the M.U.T.-III and SWS monitor, turn the ignition switch to the "LOCK" (OFF) position.



3. Connect the SWS monitor to the M.U.T.-III. Refer to GROUP 54C, How to Connect The SWS Monitor P.54C-5.
4. Connect the M.U.T.-III to the diagnosis connector.
5. Select "Interactive Diagnosis" from the main menu.
6. Select "System Select" from "Interactive Diagnosis".
7. Select "BODY" from the upper tab on "System Select" window.
8. Select "SWS" from "BODY".

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9. Select "SWS Monitor" from "SWS".
10. If "New communication between doors" is selected from "SWS monitor", the display screen will be changed. Select "Keyless Entry" from that screen.
11. Select "Keyless ID Regist" from "Keyless Entry" items.
12. Press the YES key to clear encrypted codes for all the current registered transmitters.
13. Push the hazard warning lamp switch to clear all the encrypted codes completely.
14. Push the switch of the transmitter to be registered consecutively three times. If another transmitter is registered, push the switch of that transmitter again consecutively three times.
15. Return to the previous step.
16. Select "Recept Inspect" from "Keyless Entry" items.
17. Push the transmitter switch. If the transmitter can receive signal normally, the screen will show variation of the received signals and whether the transmitter switch has been registered or not.

    NOTE: For the keyless entry system, the signal reception can be examined regardless of whether the transmitter is registered or not.
18. Return to the main menu and complete.
19. Remove the M.U.T.-III.
20. Disconnect the SWS monitor.
21. Check that the keyless entry system works normally.

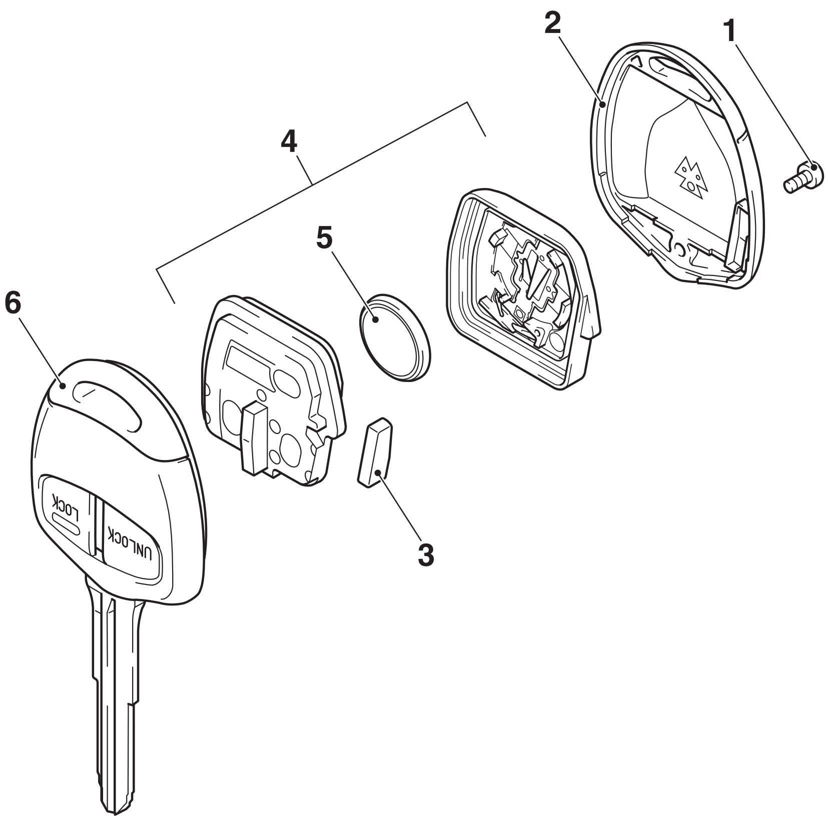
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TRANSMITTER

DISASSEMBLY AND REASSEMBLY

M1428002800202

Post-installation operation
- Transmitter operation check



Disassembly steps
1. Screw
2. Upper cover
3. Transponder

Disassembly steps (Continued)
4. Transmitter assembly
5. <<**A**>> >>**A**<< Battery
6. Master key

DISASSEMBLY SERVICE POINT

<<A>> BATTERY REMOVAL

⚠ CAUTION

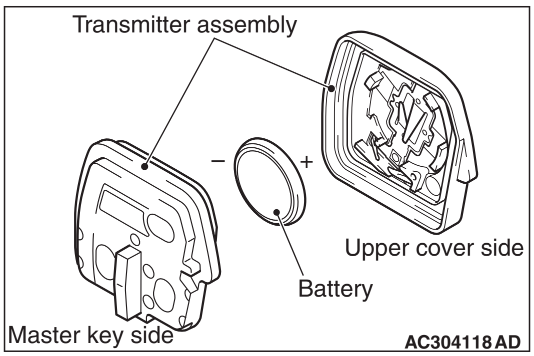
Do not allow water or dust to enter the inside of the transmitter assembly when it is open. Also, do not touch the precision electronic device.

REASSEMBLY SERVICE POINT

>>A<< BATTERY INSTALLATION

⚠ CAUTION

Do not allow water or dust to enter the inside of the transmitter assembly when it is open. Also, do not touch the precision electronic device.



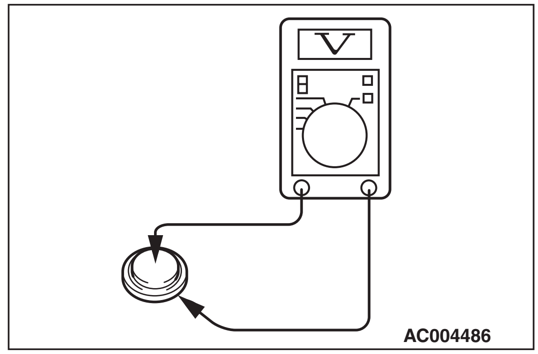
Install a new battery to the transmitter assembly with its (+) side facing towards the upper cover side.

Battery required for replacement: Coin type battery CR1616

INSPECTION

M1428003800142

TRANSMITTER BATTERY CHECK



Measure the voltage of the battery. If the voltage of the battery is not within the standard value, replace the battery.

Standard value: 2.5 – 3.2 V

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SUNROOF ASSEMBLY

SERVICE SPECIFICATIONS

M1421000300426

Item	Standard value
Sunroof lid glass operation current A (at 20 °C)	7 or less

TROUBLESHOOTING

DIAGNOSIS TROUBLESHOOTING FLOW

M1426001700121

Refer to GROUP 00, How to use Troubleshooting/inspection Service Points – Contents of Troubleshooting P.00-5.

CHECK CHART FOR TROUBLE SYMPTOMS

M1426002000170

Symptom	Inspection procedure number	Reference page
The sunroof does not work at all.	1	P.42-68
Any of the sunroof switch positions is defective.	2	P.42-74

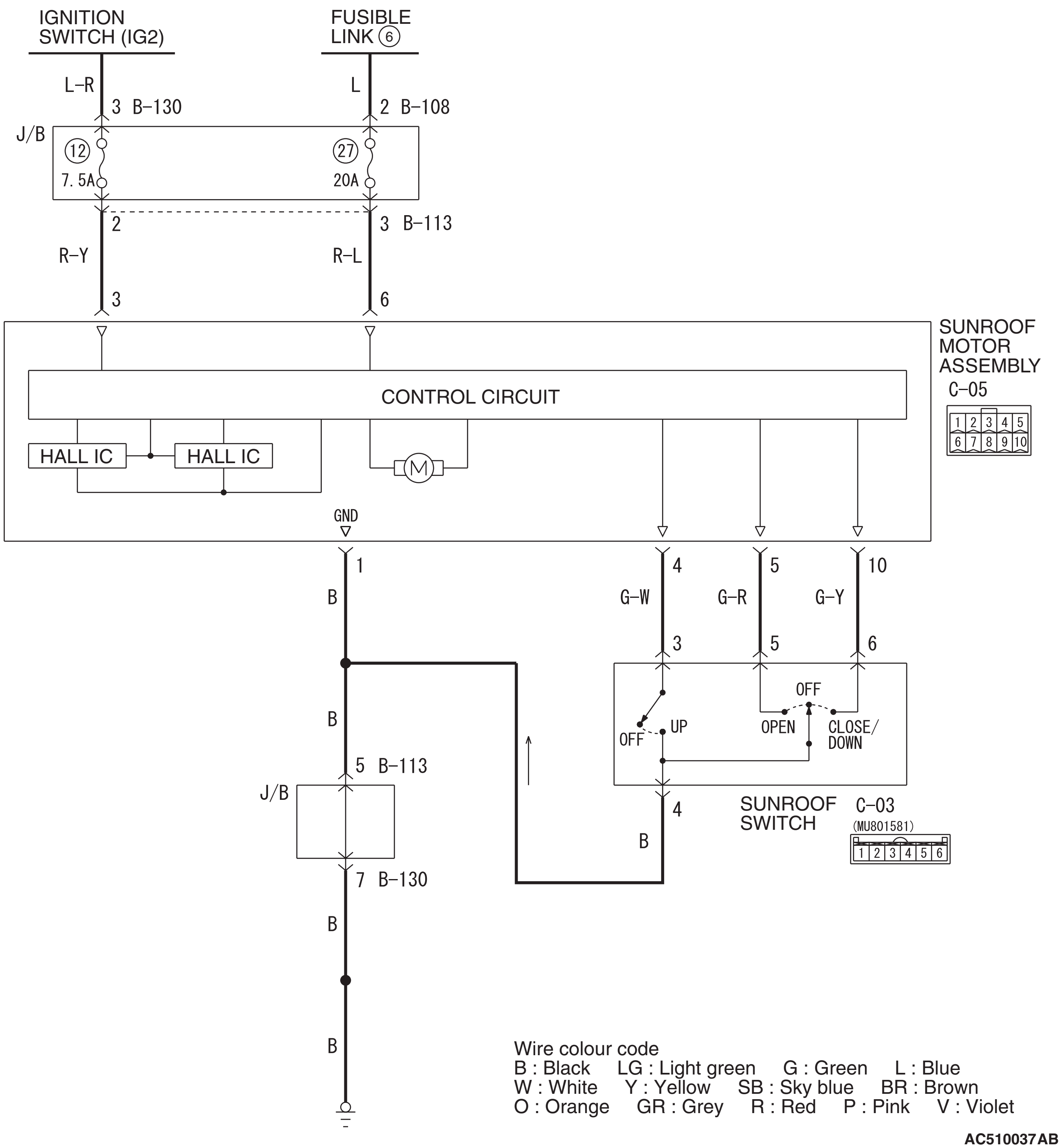
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SYMPTOM PROCEDURES

Inspection Procedure 1: The sunroof does not work at all.

⚠ CAUTION
Whenever the ECU is replaced, ensure that the input and output signal circuits are normal.

Sunroof-ECU Power Supply Circuit



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COMMENTS ON TROUBLE SYMPTOM

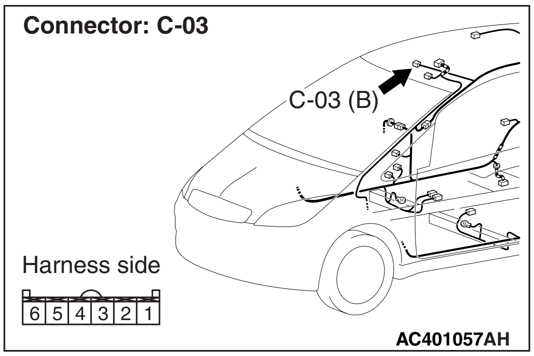
If the sunroof does not work at all, these power supply circuit(s), these earth circuit(s), sunroof switch or the sunroof motor assembly (sunroof-ECU) may be defective.

PROBALE CAUSES

- Malfunction of the sunroof switch
- Malfunction of the sunroof motor assembly (sunroof-ECU)
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

STEP 1. Connector check: C-03 sunroof switch connector



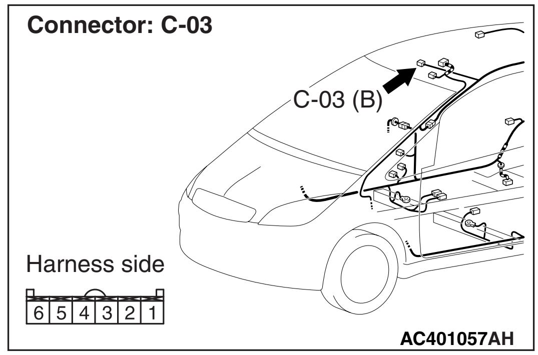
Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the connector.

STEP 2. Check the sunroof switch.

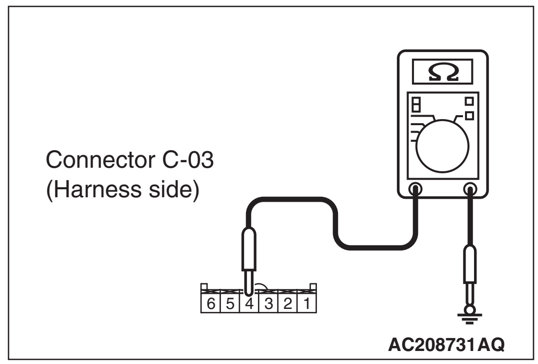
Check that the sunroof switch works normally. Refer to P.42-79.

Q: Is the check result normal?
YES : Go to Step 3.
NO : Replace the sunroof switch.

STEP 3. Resistance measurement at the C-03 sunroof switch connector.



(1) Disconnect the connector, and measure at the wiring harness side.



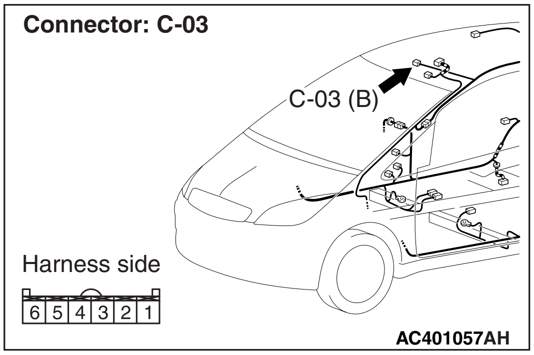
(2) Continuity between C-03 sunroof switch connector terminal No.4 and body earth

OK: Continuity (Less than 2Ω)

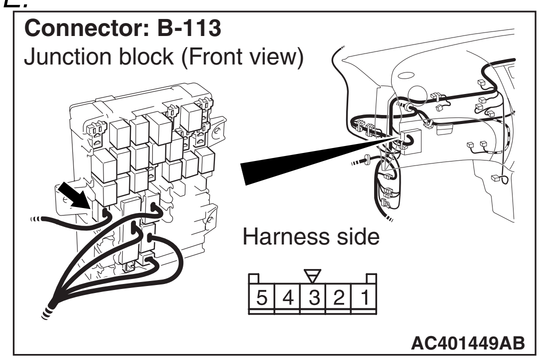
Q: Is the check result normal?
YES : Go to Step 5.
NO : Go to Step 4.

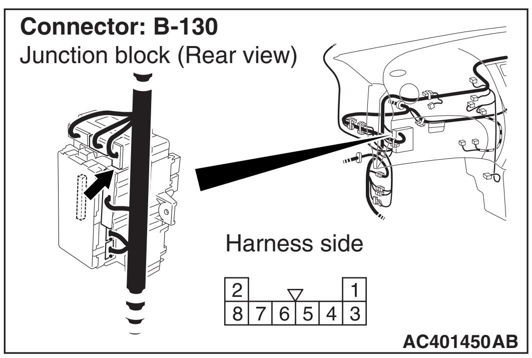
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STEP 4. Check the wiring harness between C-03 sunroof switch connector terminal No.4 and body earth.



NOTE:





Prior to the wiring harness inspection, check junction block connector B-113 and B-130, and repair if necessary.

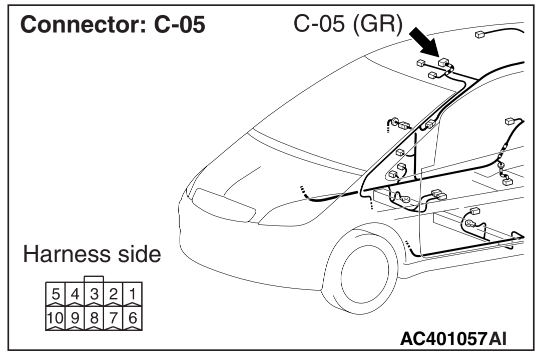
- Check the earth wires for open circuit.

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-13).

NO : Repair the wiring harness.

STEP 5. Connector check: C-05 sunroof motor assembly connector

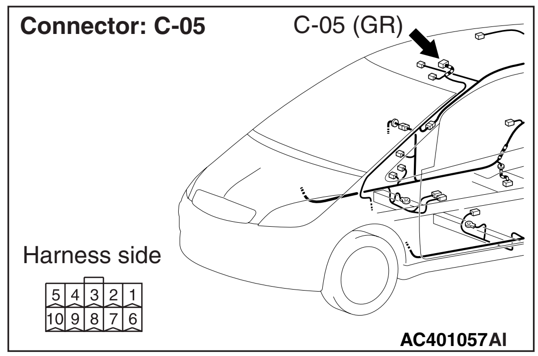


Q: Is the check result normal?

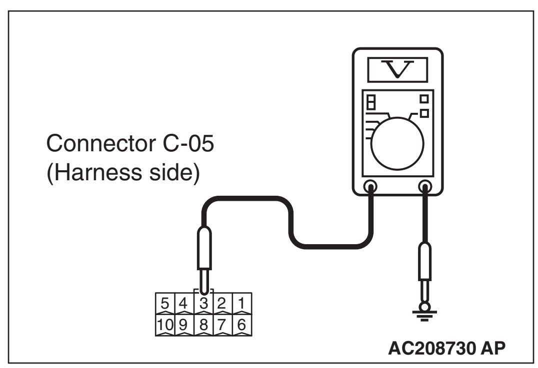
YES : Go to Step 6.

NO : Repair the connector.

STEP 6. Voltage measurement at the C-05 sunroof motor assembly connector.



(1) Disconnect the sunroof motor assembly connector, and measure at the harness side.
(2) Ignition switch: ON



(3) Check the voltage between the C-05 sunroof motor assembly connector terminal No.3 and body earth.

OK: Battery positive voltage

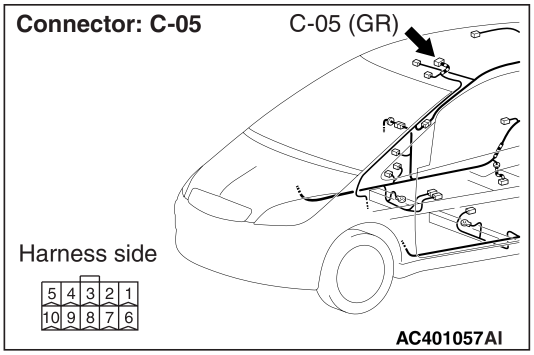
Q: Is the check result normal?

YES : Go to Step 8.

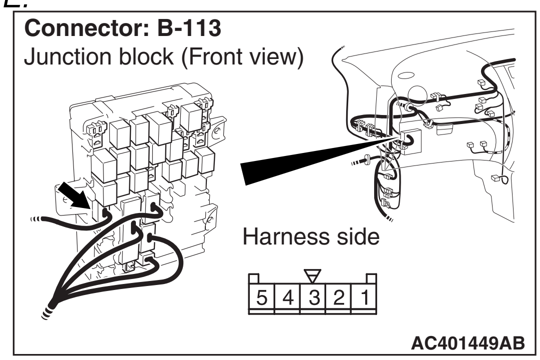
NO : Go to Step 7.

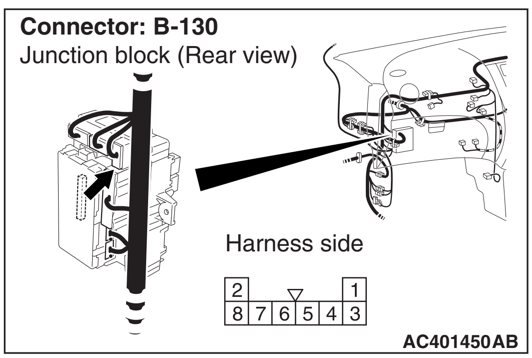
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STEP 7. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.3 and the ignition switch (IG2).



NOTE:





Prior to the wiring harness inspection, check junction block connector B-113 and B-130, and repair if necessary.

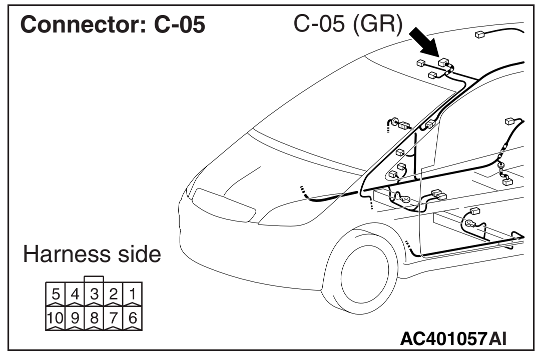
- Check the power supply line for open circuit.

Q: Is the check result normal?

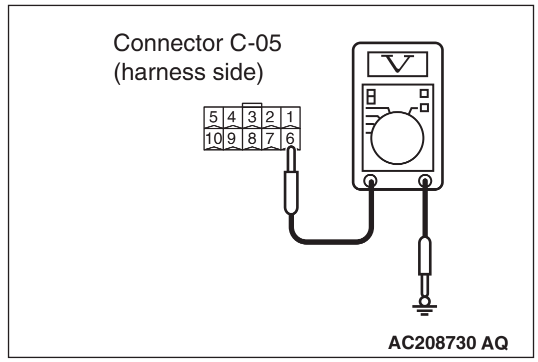
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-13).

NO : Repair the wiring harness.

STEP 8. Voltage measurement at the C-05 sunroof motor assembly connector.



(1) Disconnect the sunroof motor assembly connector, and measure at the harness side.



(2) Check the voltage between the C-05 sunroof motor assembly connector terminal No.6 and body earth.

OK: Battery positive voltage

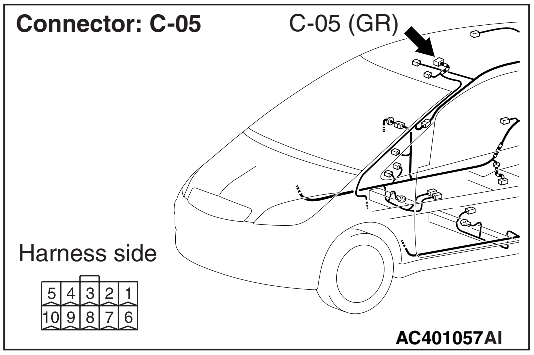
Q: Is the check result normal?

YES : Go to Step 10.

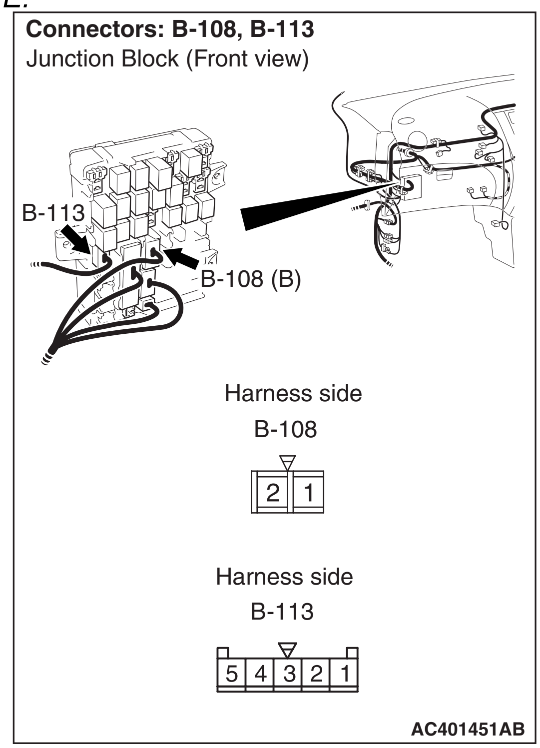
NO : Go to Step 9.

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STEP 9. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.6 and the fusible link (6).



NOTE:



Prior to the wiring harness inspection, check junction block connector B-108 and B-113, and repair if necessary.

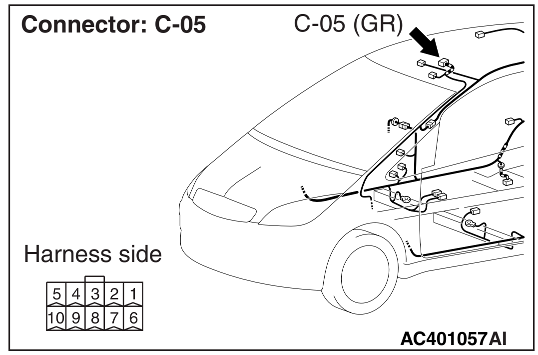
- Check the power supply line for open circuit.

Q: Is the check result normal?

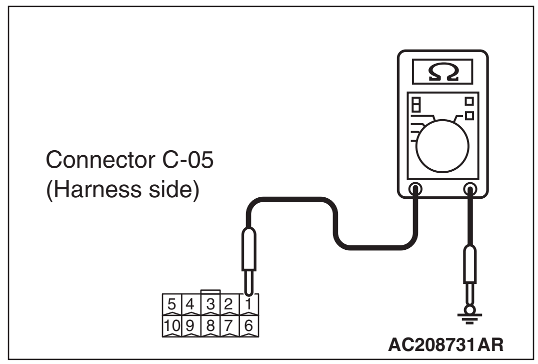
YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-13).

NO : Repair the wiring harness.

STEP 10. Resistance measurement at the C-05 sunroof motor assembly connector.



(1) Disconnect the sunroof motor assembly connector, and measure at the harness side.



(2) Check the resistance between C-05 sunroof motor assembly connector terminal No.1 and body earth.

OK: Continuity (Less than 2Ω)

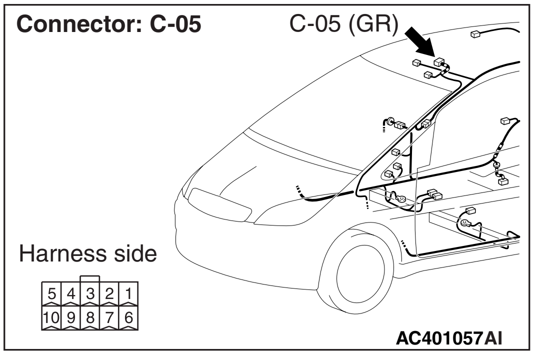
Q: Is the check result normal?

YES : Go to Step 12.

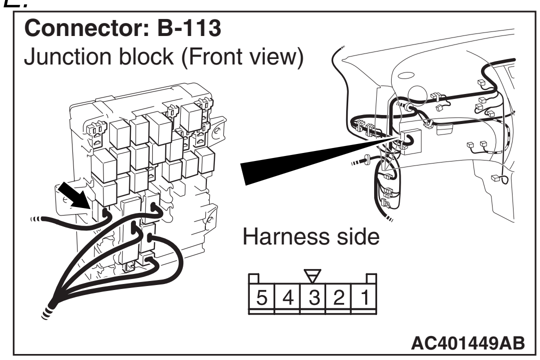
NO : Go to Step 11.

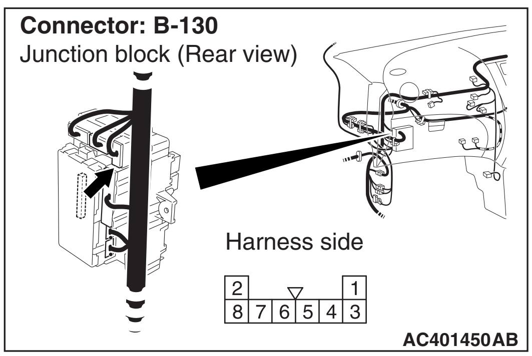
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STEP 11. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.1 and body earth.



NOTE:





Prior to the wiring harness inspection, check junction block connector B-113 and B-130, and repair if necessary.

- Check earth line for open circuit.

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-13).

NO : Repair the wiring harness.

STEP 12. Retest the system.

The sunroof assembly should now work normally.

Q: Is the check result normal?

YES : The trouble can be an intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-13).

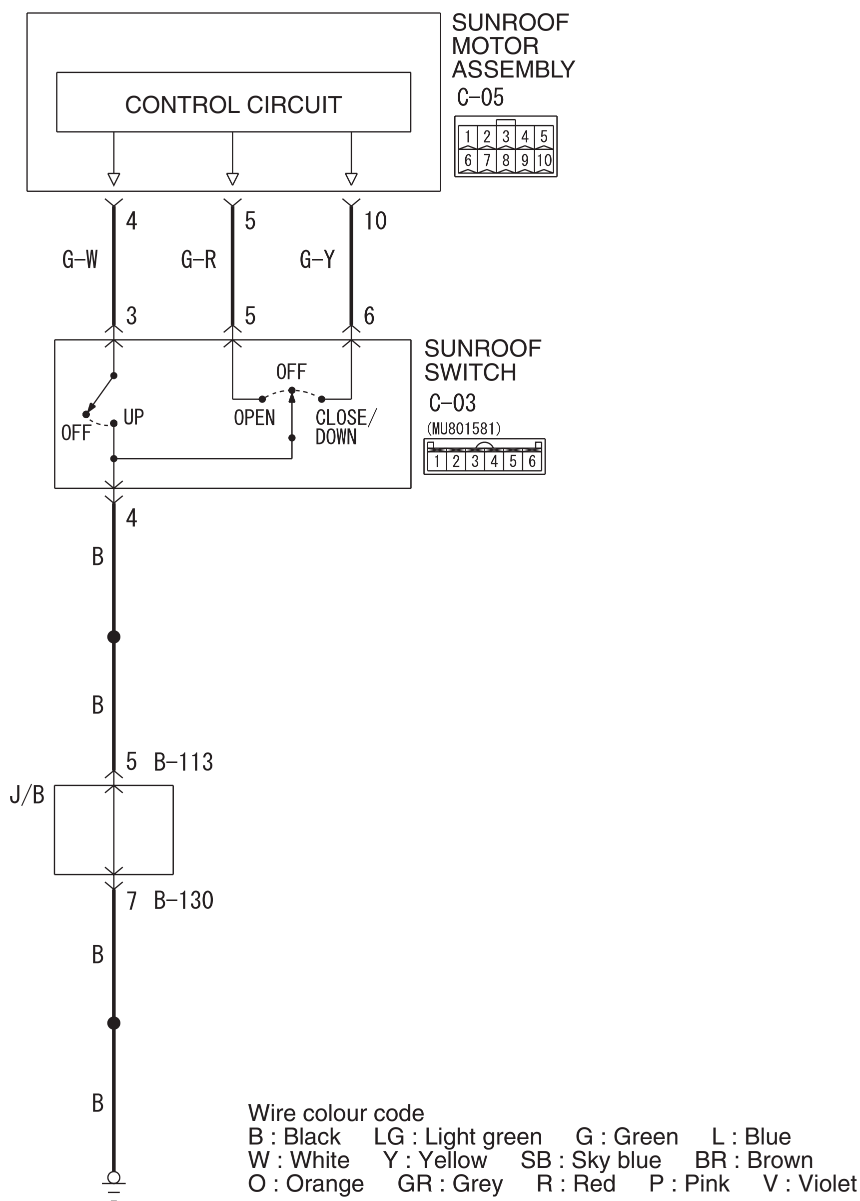
NO : Replace the sunroof motor assembly.

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Inspection Procedure 2: Any of the sunroof switch positions is defective.

⚠ **CAUTION**
Whenever the ECU is replaced, ensure that the input and output signal circuits are normal.

Sunroof Switch Circuit



AC510038AB

COMMENTS ON TROUBLE SYMPTOM

If any of the sunroof switch positions is defective, the communication line between the sunroof switch and the sunroof motor assembly (sunroof-ECU) may be defective.

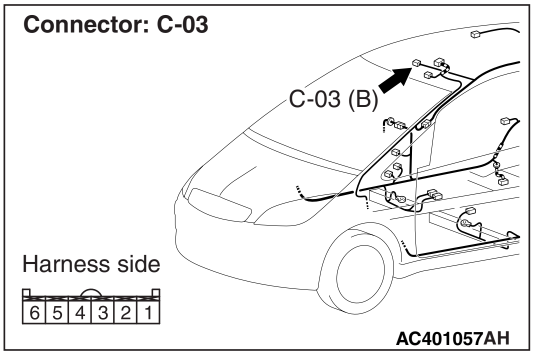
PROBALE CAUSES

- Malfunction of the sunroof switch
- Malfunction of the sunroof motor assembly (sunroof-ECU)
- Damaged harness wires and connectors

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DIAGNOSIS PROCEDURE

STEP 1. Connector check: C-03 sunroof switch connector



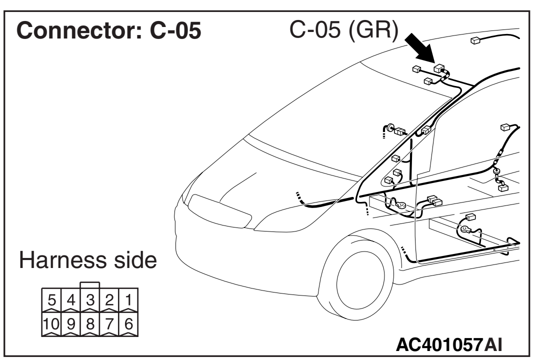
Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the connector.

STEP 2. Check the sunroof switch.

Check that the sunroof switch works normally. Refer to P.42-79.

Q: Is the check result normal?
YES : Go to Step 3.
NO : Replace the sunroof switch.

STEP 3. Connector check: C-05 sunroof motor assembly connector

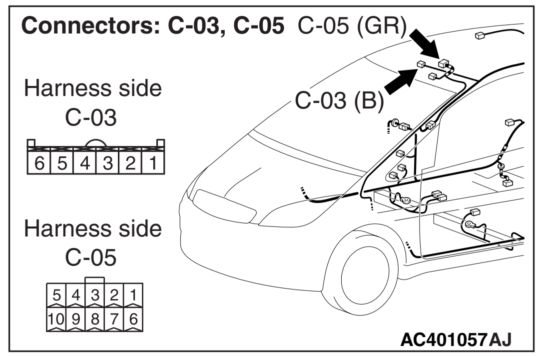


Q: Is the check result normal?
YES : Go to Step 4.
NO : Repair the connector.

STEP 4. Retest the system.

Q: Which switch position is defective?
"TILT UP" : Go to Step 5.
"OPEN" : Go to Step 6.
"CLOSE/DOWN" : Go to Step 7.

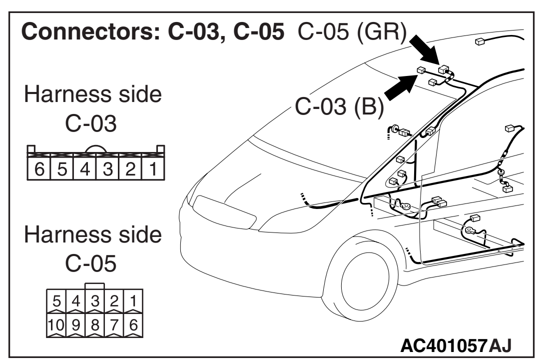
STEP 5. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.4 and C-03 sunroof switch connector terminal No.3.



- Check the communication line for open circuit.

Q: Is the check result normal?
YES : Replace the sunroof motor assembly.
NO : Repair the wiring harness.

STEP 6. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.5 and C-03 sunroof switch connector terminal No.5.

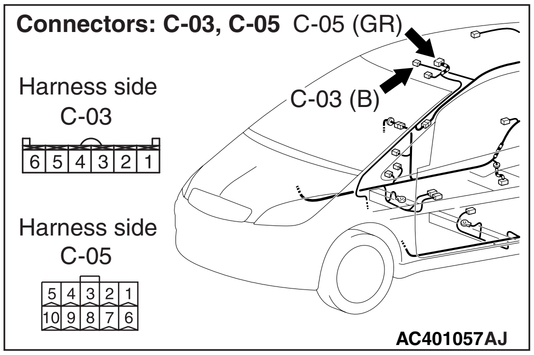


- Check the communication line for open circuit.

Q: Is the check result normal?
YES : Replace the sunroof motor assembly.
NO : Repair the wiring harness.

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STEP 7. Check the wiring harness between C-05 sunroof motor assembly connector terminal No.10 and C-03 sunroof switch connector terminal No.6.



- Check the communication line for open circuit.

Q: Is the check result normal?

YES : Replace the sunroof motor assembly.

NO : Repair the wiring harness.

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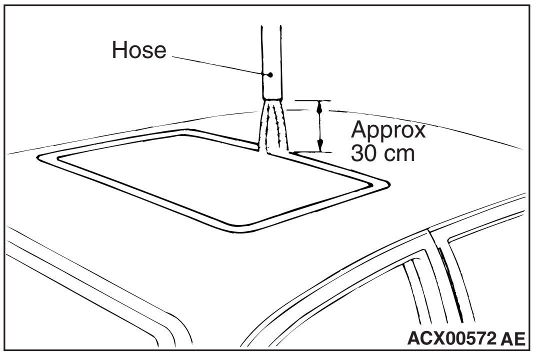
ON-VEHICLE SERVICE

WATER TEST

M1426000900337

Check if there are any leaks in the sunroof by the following procedure.

1. Fully close the roof lid glass.
2. Adjust the water pressure so that water comes out of the hose to a height of approximately 50 cm when the hose is held vertically facing upwards.

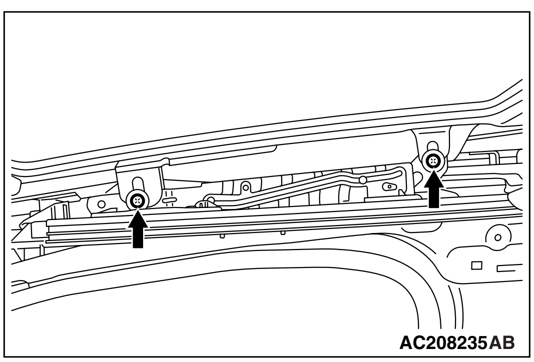


3. Hold the end of the hose approximately 30 cm above the roof and let the water run onto the weatherstrip for 5 minutes or more.
4. Check if any water leaks can be found in the room while watering. Even though there are any water leaks around the roof lid glass, it can be acceptable as long as water is caught in the drip area.

SUNROOF FIT ADJUSTMENT

M1426001000359

1. Close the roof lid glass fully.
2. Open the sun shade fully.



3. Loosen the roof lid glass assembly mounting screws. Adjust the roof lid glass height by moving the glass assembly along the guide oblong hole so that the clearance between the glass and the vehicle body is even.
4. After adjustment, check that the sunroof operates smoothly.

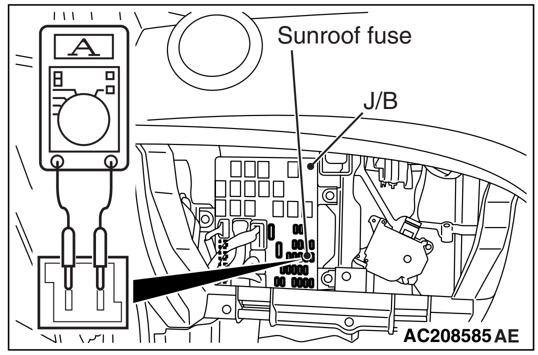
SUN ROOF OPERATION CHECK

M1426002600387

Check to see that the sunroof operates by pressing the sunroof switch. If it does not operate, perform troubleshooting. Refer to P.42-67.

ROOF LID GLASS OPERATION CURRENT CHECK

M1426003200229



1. Remove the fuse of the sunroof then connect the circuit tester as shown in the Figure.
2. Turn ON the sunroof switch then measure the operating current of the intermediary segment when operations is starting, the sunroof is fully closed, the sunroof is fully opened and the sunroof is tilted fully up.

   Standard value: 7 A or less (at 20 °C)

3. Check the following areas if the operating current of the roof lid glass exceeds the standard value.

- Sunroof assembly assembling state, deformation and biting of any foreign substances.
- Drive cable fastening
- Tilting of roof lid glass

INITIALISATION OF SUNROOF

M1426004600190

1. When the tilt-up switch remains pressed for approximately 10 seconds, the sunroof tilts up fully from the closed position.
2. After the sunroof has stopped at the fully tilted-up position, release the switch.
3. When the tilt-up switch remains pressed for approximately 5 seconds again within approximately 5 seconds after it has been released, the sunroof will begin to operate again.
4. Continue pressing the tilt-up switch further until the sunroof is opened fully and then closed fully.

   NOTE: If the tilt-up switch is released while the sunroof is moving, the initialisation will be cancelled. Repeat the procedures.

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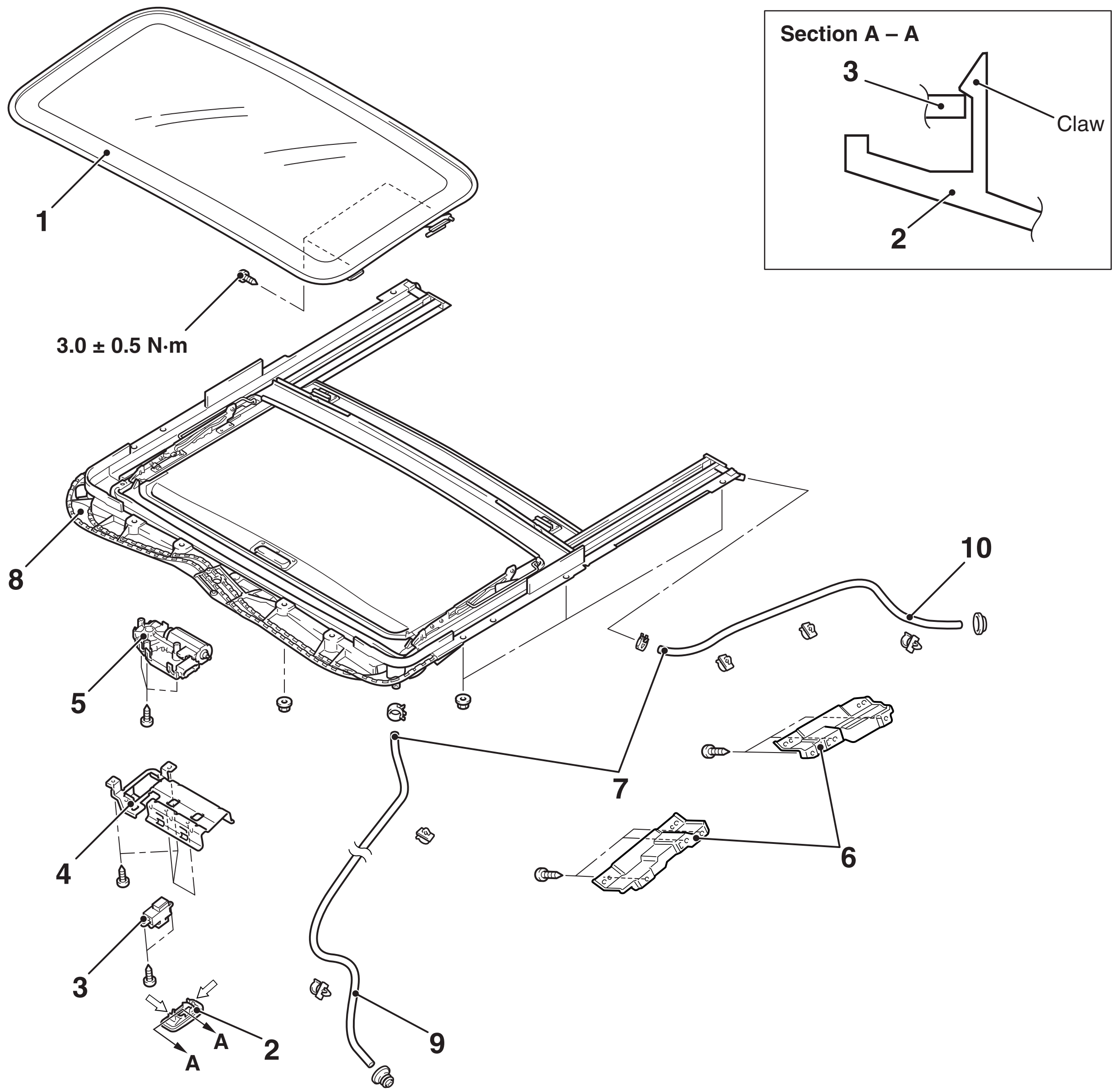
SUNROOF ASSEMBLY

REMOVAL AND INSTALLATION

M1426001200472

Post-installation Operation <Roof lid glass assembly, Sunroof assembly>

- Sunroof Water Test (Refer to P.42-77).
- Sunroof Fit Adjustment (Refer to P.42-77).
- Sunroof Initialising Adjustment (Refer to P.42-77).



Note
⇦ : Claw positions

AC208804 AC

Sunroof lid glass assembly removal

1. Sunroof lid glass assembly

Sunroof switch removal steps

2. Sunroof switch cover

- Headlining (Refer to GROUP 52A, Headlining P.52A-16).

Sunroof switch removal steps (Continued)

3. Sunroof switch
4. Map lamp bracket

Sunroof motor assembly removal steps

2. Sunroof switch cover

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Sunroof motor assembly removal steps (Continued)

- Headlining (Refer to GROUP 52A, Headlining P.52A-16).

5. Sunroof motor assembly

Sunroof assembly removal steps

2. Sunroof switch cover

- Headlining (Refer to GROUP 52A, Headlining P.52A-16).

6. Assist grip bracket
7. Drain pipe connection

Sunroof assembly removal steps (Continued)

8. Sunroof assembly

Drain pipe removal steps

2. Sunroof switch cover

- Headlining (Refer to GROUP 52A, Headlining P.52A-16).
- Splash shield (Refer to P.42-7).

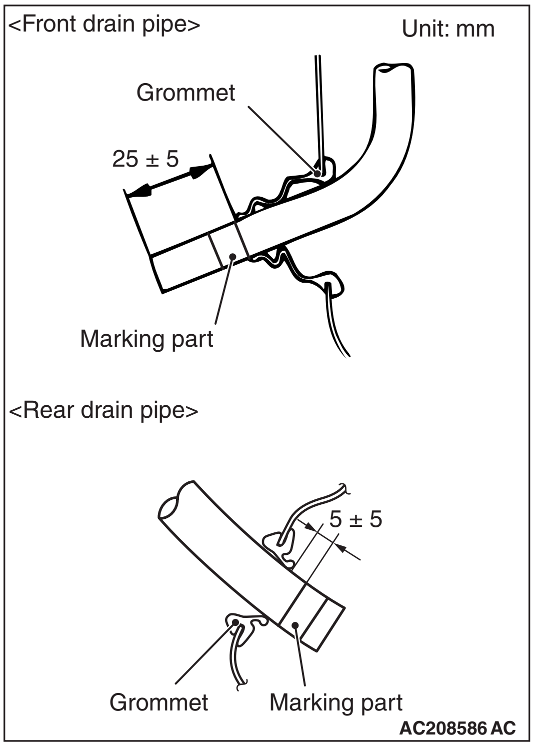
>>**A**<< 9. Front drain pipe

- Rear combination lamp assembly (Refer to GROUP 54A, Rear Combination Lamp Assembly, P.54A-81).

>>**A**<< 10. Rear drain pipe

INSTALLATION SERVICE POINT

>>A<< REAR DRAIN PIPE/FRONT DRAIN PIPE INSTALLATION

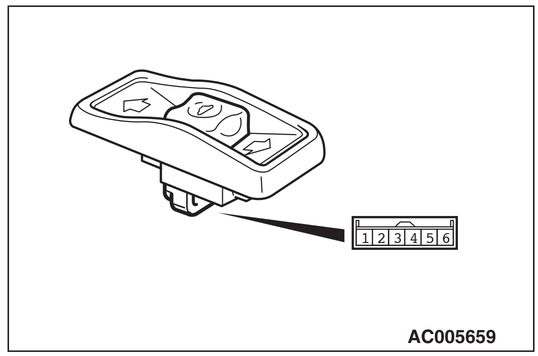


Install the grommet. Adjust the drain pipe projection as shown.

INSPECTION

M1426004700335

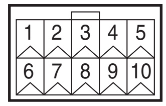
SUNROOF SWITCH CONTINUITY CHECK



Switch position	Tester connection	Specified condition
Open	4 – 5	Continuity (Less than 2Ω)
OFF	3 – 4, 3 – 5, 3 – 6, 4 – 5, 4 – 6, 5 – 6	Open circuit
UP	3 – 4	Continuity (Less than 2Ω)
Close/Down	4 – 6	Continuity (Less than 2Ω)

SUNROOF MOTOR ASSEMBLY TERMINAL CHECK

C-05



AC510039AB

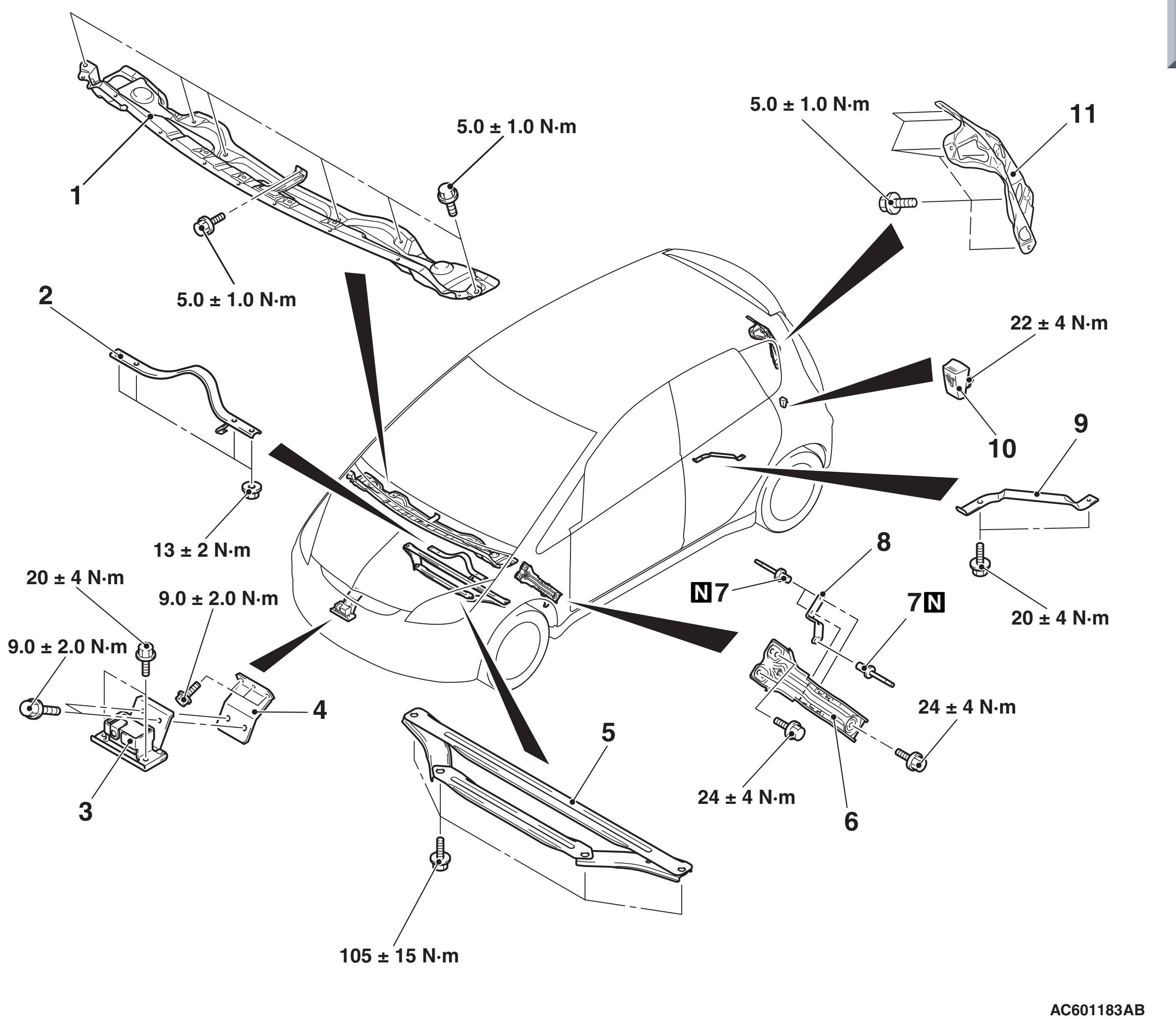
Terminal No.	Check item	Check condition	Normal condition
1	Earth	Always	0 V
2	–	–	–
3	Power supply from ignition switch (IG2)	Ignition switch: ON	System voltage
4	Input from sunroof switch (Tilt-up)	Sunroof switch: Tilt-up	0 V
5	Input from sunroof switch (Open)	Sunroof switch: Open	0 V
6	System voltage (Motor)	Always	System voltage
7	–	–	–
8	–	–	–
9	–	–	–
10	Input from sunroof switch (Close/Tilt-down)	Sunroof switch: Close/Tilt-down	0 V

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LOOSE PANEL

REMOVAL AND INSTALLATION

M1421003100379



Cowl top panel removal steps

- Windshield wiper motor and Link assembly (Refer to GROUP 51, Windshield Wiper P.51-29.)

1. Cowl top panel

Backbone brace removal

2. Backbone brace

Front bumper reinforcement damper removal steps

- Hood latch (Refer to P.42-5.)

3. Front bumper reinforcement damper <Vehicles without RALLIART Version-R>
4. Dynamic damper bracket <Vehicles without RALLIART Version-R>

Front suspension axle side plete removal steps

5. Front suspension axle side plete <Vehicles with RALLIART Version-R>

Upper frame to front pillar brace removal step

- Splash shield (Refer to P.42-7.)

6. Upper frame to front pillar brace <Vehicles with RALLIART Version-R>
7. <<**A**>> >>**A**<< Rivet <Vehicles with RALLIART Version-R>
8. Front fender side bracket <Vehicles with RALLIART Version-R>

Floor guard bar removal steps

9. Floor guard bar <Vehicles with RALLIART Version-R>

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Child restraint bracket removal

- Rear bumper assembly (Refer to GROUP 51, Rear Bumper Assembly P.51-7.)

10. Child restraint bracket

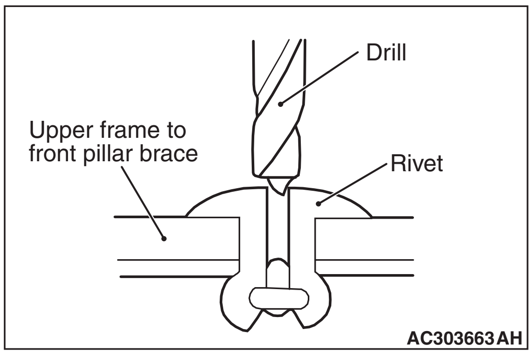
Rear pillar inner panel removal steps

- Quarter trim upper (Refer to GROUP 52A, Interior trim P.52A-11.)

11. Rear pillar inner panel <Vehicles with RALLIART Version-R>

REMOVAL SERVICE POINT

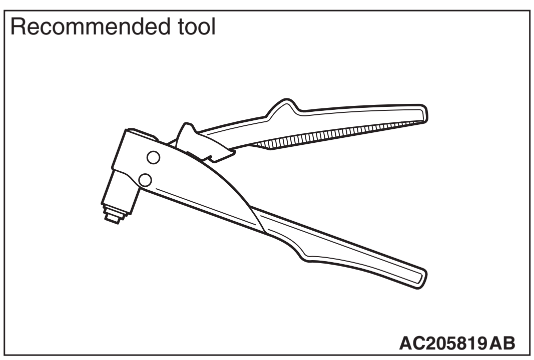
<<A>> RIVET REMOVAL



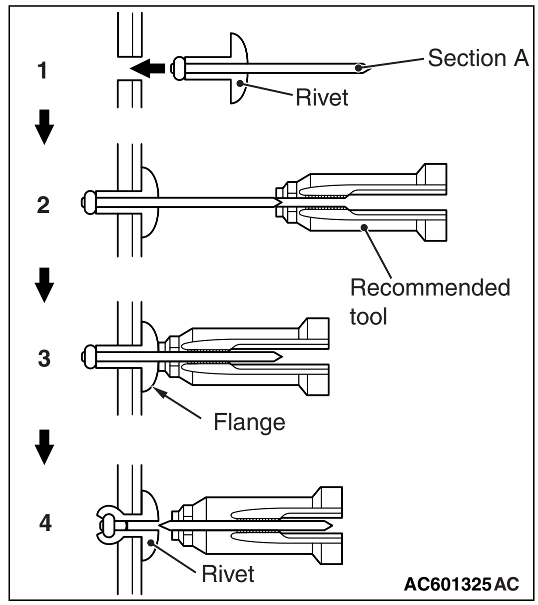
Use a drill (4.0 mm) to make a hole in the rivet to break it, and then remove the rivet.

INSTALLATION SERVICE POINT

>>A<< RIVET INSTALLATION



Use recommended tool shown in the illustration to connect the rivet by the following procedure.



1. Insert the rivet into the base material (upper frame to front pillar brace and front fender side bracket).
2. Place the recommended tool over section A of the rivet.
3. While pushing the flange surface of the rivet with the recommended tool, press the handle of the tool.
4. The thin part of section A of the rivet will break and the rivet will then be attached.